THE ORGANIZATION OF ADMINISTRATIVE SUPPORT SERVICES
IN METROPOLITAN TORONTO

A Study for

The Royal Commission on Metropolitan Toronto

by

Price Waterhouse Associates

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The conclusions contained in this report
do not necessarily constitute findings
of The Royal Commission on Metropolitan
Toronto.

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An examination of the organizational structure and
allocation of responsibilities for each of ten admini-
strative functions in the constituent governmental
entities of Metropolitan Toronto. The purpose of the
study was to evaluate the merits of altering the respon-
sibility for these functions, by centralizing them, de-
centralizing them or sharing them among entities.

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I. SUMMARY

Overview

The individual municipal entities in Metropolitan Toronto are intended to be accountable to the public, through elected officials, for the public services they render. Authority and responsibility for administrative work in support of those services rests with the entities themselves. Should authority over these administrative functions be centralized, and should the work be done in a central location? Can the quality of the work thereby be raised, or its cost reduced?

Our study of administrative services shows that the answer is no, except in one key area. Creating bigger central groups will neither improve the quality of service nor save the taxpayers' money.

The exception is a big one - the operation of computers and the creation of computer systems. We propose a combination of central and local computers. Common systems should be designed cooperatively to handle operating transactions and produce information for municipal management. The recommended changes capitalize upon the most recent technological developments, and help to eliminate duplication in new systems.

We found many instances in Metropolitan Toronto where administration can be improved by greater sharing of information, ideas and skills: in management information systems, purchasing, printing, mapping, records management, and administrative procedures generally. This can and should be done without further centralization of authority or consolidation of locations. The use of private sector services should continue in printing, mapping and other areas. It might be expanded in pension administration and in the auditing function.

Purpose of the Study

The Royal Commission on Metropolitan Toronto retained Price Waterhouse Associates to examine the organizational structure and allocation of authority and responsibility for ten large administrative functions in Metropolitan Toronto. They are: computers and systems, revenue billing and collection, payroll administration, pension administration, auditing, purchasing and stores, printing, mapping, records management and archives, and administrative support to collective bargaining.

We examined these functions for each of thirty-seven Metropolitan Toronto public entities: the area municipalities, library boards, hydro commissions, boards of education, boards of health, parking authorities, the Board of Commissioners of Police and the Toronto Transit Commission.

We explored the implications and effects of centralizing, decentralizing or sharing the ten functions, and evaluated the resulting benefits, economies and disadvantages. Our recommendations point the Metropolitan Toronto municipal entities in the right direction in their administrative planning for the years ahead. We were asked to study what level of government should be responsible for these functions. We did not make any overall assessment of the efficiency or value of the functions in each entity; our aims were more modest.

The study began in late August 1976 and finished in mid-October. A very extensive amount of information was collected and analyzed. It came from comprehensive questionnaires filled in by the entities, and from interviews with over 100 people. Data from 1975 were used on the staffing, costs and work volumes in each function.

Municipal Administrative Services Today

Municipal government in Metropolitan Toronto is big and inevitably expensive. Annual expenditures on the ten functions dealt with by the study probably come to over $40 million. (The municipal accounting systems are not set up in a way that would give a precise total.)

There are 20 computers in operation within the Metropolitan system of government. In 1975, $13 million was spent to run them and to design systems of ever-increasing complexity for them.

The area municipalities and the hydro utilities spent $11 million in 1975 (excluding substantial data processing costs) to bill and collect their taxes, water accounts and electricity charges.

In 1975, 2,000,000 payroll cheques were issued to more than 85,000 employees, at an administrative cost of well over $2 million, exclusive of data processing.

The auditing function cost about $2 million in 1975: $1.6 million for work performed internally (mainly in the Metropolitan Municipality and the City) and $450,000 for public accounting firms in other entities.

In 1975 the purchasing and stores departments bought goods and services worth $200 million, operated 40 warehouses and spent $8 million to do so.

Expenditures on the other functions we examined are not known in total. There can be no doubt, though, that the costs of printing, mapping, records management and administration of collective bargaining are substantial.

Centralization and Consolidation - In Principle

Designing governmental organizational structures is more an art than a science. There are few proven theories to use as guideposts.

Centralization or decentralization of authority? Consolidation or dispersal of work and resources? are the main questions.

"Centralization" refers to assigning authority and accountability to a more senior organizational level. Decentralization, correspondingly, means placing these at a "lower" organizational level. We use "consolidation" to describe the physical bringing together of staff or equipment resources in a central location. Conversely, the spreading out of these to more physical locations is termed "dispersal".

Centralization and consolidation allow an entity to capitalize upon specialization in employee skills, management, equipment and technology. They may lead to higher output from employees and better utilization of facilities, and eliminate the duplication inherent in having many smaller units. These can give a better quality of service, one that is more responsive because it is more specialized, applies opportunities for standardization and brings a broader perspective to the needs. This in turn can lead to economies of scale, with fewer employees, managers and overhead.

Decentralization and dispersion, on the other hand, have their own set of advantages. They give support to the principle of local accountability: authority is closer to the point of action, and local control is kept over services and costs. This should bring higher productivity: local initiative and innovation are encouraged, the employees are closer to those

who use their services, communications are faster, and employee
morale and job satisfaction are higher. The quality of service
may be better, too, since services based on a better knowledge
of the local situation may be more responsive to local needs.
The number of employees, and therefore the costs, may be lower,
because staffing and the standard of service are directly re-
lated to local needs and priorities.

It will be apparent that some of the listed bene-
fits of centralization can be described with equal force as
benefits of decentralization. For example, a higher quality
of response to service needs is used as an argument in favour
of either. Fewer employees and lower costs are cited as ad-
vantages of both. Most of the advantages either way are
intangible, and difficult to prove either before or after the
fact.

The issues are laden with emotions and coloured by
personal attitudes. A municipal official at a local level
may quite sincerely believe that decentralization is better,
and that local autonomy and control must be preserved in
order to maintain local accountability to the public. On
the other hand, a municipal official at a senior level may feel,
equally sincerely, that centralization fosters consistency,
breadth and a higher quality of service.

In the minds of many people today, centralization
is "bad" and decentralization is "good". The public distrusts
bigness. People react instinctively against centralization,
which conjures up visions of bureaucracy, red tape, delays,
impersonality, remoteness and indifference. Decentralization
is virtuous: it is down to earth, informal, flexible, humane,
responsive and right.

Yet a balance between the poles must be maintained.
Indeed, the essence of our democratic and our political pro-
cesses is the existence of such checks and balances. These
should ensure an appropriate blending of local knowledge and
broader perspectives.

In proceeding with the study we kept such theoretical
considerations constantly in mind. But primarily we endeavoured
to look realistically at the actual problems, needs, plans and
opportunities within Metropolitan Toronto. What work must be
done? Why must it be done? By what process can it best be
done? These were the questions we considered first, in each
of the ten functions examined. Next we worked out the most

logical framework for the allocation of resources: people,
equipment and techniques. Then we dealt with the organi-
zational questions: Who should do the work? Where should
they be? Who should be responsible? And how is account-
ability to be maintained?

Centralization and Consolidation - Our Conclusions

We consider that there should be very little
further centralization of authority or consolidation
of activities. We do, however, propose in many of the
functions that there be greater cooperation and sharing of
information, or more use of services available from
specialized public or private sector organizations.

Our findings give little support to the propo-
sition that further economies of scale can be achieved in
administrative functions. Many of the municipalities and
other entities are large enough to have already secured
significant economies of scale. Most of the functions
we studied are already centralized and consolidated within
most of the entities. To try to build even larger aggrega-
tions would, in our view, be counterproductive in terms of
cost, quality of service and employee relationships. The
purported benefits stemming from specialization and higher
productivity in more centralized structures would, we found,
be more than outweighed by the disadvantages. Those include
undermining of local accountability, inhibiting of local
initiative, remoteness of large central groups from the local
scene, red tape they would generate, and difficulties of
communication. The end result would be higher costs to the
taxpayer.

In essence, we are saying: leave authority and
structures alone. Capitalize on opportunities to share
or contract services elsewhere, and concentrate upon im-
proving administrative services, policies and practices
within the individual entities.

Computers and Systems

Almost all the larger entities have their own computer
and systems departments. Some of the smaller entities are
serviced by one of the others or by outsiders. The Metropolitan
Municipality contracts its computer services from the City of
Toronto.

Over the years, the entities have designed their own
individual systems, without any Metropolitan Toronto-wide plan-
ning, coordination or joint development.

The biggest computer systems are in administration: billing of taxes, water and electricity, payrolls, general accounting and inventory control. The Metropolitan Municipality has an advanced computer system for its Social Services Department. The area municipalities have some systems to assist operating departments, and the school boards have systems to help keep student records.

Many systems linking a computer "on-line" to display screens in the user departments have been or are about to be installed. They provide instant access to data about tax and utility bills, social service clients, or inventories.

New developments in computer technology have had a strong influence on the way computer and systems work is done in corporations and the public sector. These developments were crucial in arriving at our organizational recommendations for computers and systems in Metropolitan Toronto.

The recent emergence of minicomputers is particularly significant. Large central computers can be linked to many local minicomputers to get greater overall efficiency. Metropolitan Toronto should take full advantage of these technological developments.

Basic systems should be developed for uses that are common to many or all the entities. These include payrolls, general accounting, inventories, revenue billing and collections, municipal operating department records and student records. The users of the systems would be able to modify or supplement these common systems to suit their special needs.

One or more central, large computers would be needed to perform the big-volume work. Minicomputers in individual entities would do local processing and make use of "on-line" techniques when warranted.

We recommend that a detailed study be made of the computer and systems function in Metropolitan Toronto. The study should assess in depth the sharing of services through the cooperative design of common systems and a combination of central and local computer facilities. It should examine the benefits, costs, and savings, and lay out a comprehensive plan and timetable of implementation.

A "shared" systems and processing arrangement is a hybrid approach, intermediate between centralization and decentralization. We believe that it can provide Metropolitan Toronto with acceptable service, economy, flexibility and local control.

Revenue Billing and Collection

Each area municipality bills and collects its own taxes and water accounts, and the hydro utilities do the same thing for electricity.

Common computer systems should be created to handle this work. The massive "data crunching" required to issue the bills and record payments would be done by the central computer facility. Other activities, including maintenance of information that a customer is apt to inquire about, would be handled on the local minicomputers.

Payroll Administration

Every entity looks after its own payrolls, almost always through a central payroll department covering the entire entity. The department calculates the pay, produces the cheques, keeps records and analyzes compensation costs to charge them to the correct expenditure accounts. Extensive use is made of computer facilities to do a large proportion of this work.

Payroll work is much the same from one entity to another. Metropolitan Toronto does not need 30 distinct payroll systems. Common systems should be designed. The systems should be processed on computer facilities structured in the manner we have already recommended.

Pension Administration

This function embraces the collection of contributions into the pension funds, the investment of the money and payment of the pensions.

A high proportion of the employees are covered by the provincially administered Ontario Municipal Employees Retirement System (OMERS) and the Teachers' Superannuation Plan. The pension funds for municipal employees hired after July, 1968 must be administered by OMERS. The Toronto Transit Commission has its own Pension Fund Society, with assets of $100 million.

However, the Metropolitan Municipality, the City, the Police Commission, and the Boroughs of Etobicoke and York have "closed" pension funds with total investments exceeding $400 million. These entities manage the assets, receive contributions from and pay pensions to employees hired before the initiation of OMERS in 1968.

Pension administration is a simple process for the majority of the entities, since all they have to do is remit the contributions to OMERS or whoever runs the pension fund.

Some of the entities that now administer closed pension funds are exploring the possibility of integrating them into the OMERS plans. Many extremely complex financial and employee relations factors are involved in doing so. These explorations should continue.

Also, consideration should be given to having the closed funds contract the management of their investments to OMERS, which has an investment policy committee manned in part by private sector investment experts. Alternatively, the closed funds might set up similar committees.

Auditing

Independent firms of public accountants, such as the one to which we are closely related, audit the annual financial statements of all the entities except the Metropolitan Municipality and the City. In each of the latter two, the Auditor and his staff are municipal employees. The Municipal Auditor's department has a staff of 42, and the City Auditor's department has 35. The two Auditors perform the statutory audits and do extensive detailed checking to see that transactions are legal and to preclude or detect irregularities.

We see no reason to alter the existing arrangements for having the annual audits conducted by public accounting firms, for those entities that do so now.

The Bureau of Municipal Research and the Board of Trade of Metropolitan Toronto have expressed concern about the independence of the Metropolitan Auditor and the City Auditor under present arrangements. In their view an important principle is at stake. We have an interest in such matters; nevertheless, we think the force of their arguments requires a re-examination of the whole matter of audit independence for the Metropolitan Municipality and the City, including assessment of the advantages of retaining public accounting firms to perform the annual audit.

Operational auditing is not related to expressing an opinion on financial statements. Instead, it reviews adherence to laid-down policies, verifies the efficiency of systems, and sometimes evaluates the effectiveness of operations with a view to ensuring that good value has been received for money spent. Very little of this type of auditing is done in Metro. We believe there is much to be gained from re-orienting existing audit staffs or establishing new ones to concentrate on this type of auditing.

Purchasing and Stores

Almost every entity has its own purchasing organization, centralized for the entity as a whole. However, the Metropolitan Municipality and the Police Commissioners have effective arrangements for using the purchasing services of the City of Toronto.

Each entity should remain accountable for its own work. However, the smaller hydro commissions and school boards might consider having their respective borough's purchasing department do their buying as a service to them.

We strongly encourage the use of a Metro-wide purchasing committee to share systems information, prices, stock catalogues and specifications among the various purchasing departments.

Printing

Most of the entities have at least one printing centre. There are extensive in-house facilities, but the use of commercial printers in the private sector is also widespread.

Printing work is characterized by ups and downs in demands, run-size and level of quality. Much printing has to be done in a hurry.

We do not favour creation of a centralized printing service for Metro. However, each printing centre in the entities should be big enough to justify a variety of processes and equipment. Some entities that share a building or are near each other can use a common internal printing service.

We see no reason to recommend changing the proportions of work done in-house or contracted to commercial printers. The choice should continue to be based on specific needs and comparative costs of printing individual orders internally or by contract outside.

Mapping

Each area municipality does a considerable amount of map preparation, mainly though not exclusively in its public works department. Two Public Utilities Coordinating Committees direct the production of maps for the use of public sector and private sector utilities.

Following a thorough study of mapping needs, a Central Mapping Division was established in 1974 in the Department of Roads and Traffic of the Metropolitan Municipality.

There is a need to clarify the role and responsibility of the Division. It should monitor and evaluate the quality of map making and the ground marker program, establish standard practices, keep a central index of maps, provide technical advice to the municipalities and keep abreast of new technology. The Central Mapping function should not be part of the Roads and Traffic Department; it could be a separate unit or agency in the Metropolitan Municipality.

The actual production and delivery of mapping services should be a direct responsibility of the municipality requiring them. Mapping responsibility should be assigned to one of the departments in each municipality.

Contractual arrangements should continue for the use of private sector services and senior government agencies for aerial surveys, computer plotting and fundamental research. The Public Utilities Coordinating Committees should continue to monitor and fund the production of maps for the utilities.

Records Management and Archives

Records management is concerned with the retention of records for use in operations and management. Archives preserve the history of the entity.

Few of the entities have formal records management or archival programs. In most of them, records management is a small and part-time task of a number of people. Inactive records are stored wherever space is reasonably convenient and cheap, usually on the premises of the entity.

Clarification of legal requirements would help to reduce records management costs. If the Province were to establish mandatory minimum retention periods, local entities could safely destroy many records and copies. Similarly, specification by senior governments of the types of copies which are acceptable as evidence in court proceedings probably would allow the entities to discard many original records.

Records should continue to be stored in the individual entities, rather than being transferred to a central location. Using low-cost space in existing buildings is the most economical approach.

Authority over records management and archives should remain with each entity, to allow it to handle documents in accordance with its particular needs and interests.

The boroughs should encourage their library boards to assume, wherever feasible, the management of archives on behalf of the local entities within the borough.

Administrative Support to Collective Bargaining

This function deals with administrative help for collective bargaining, not the bargaining process itself. Administrative support includes providing information to help develop bargaining positions and analyzing the impact of proposals developed by either party.

Substantial reliance is placed upon outside organizations that gather comparative compensation data. Some of the entities supplement these with their own surveys of external compensation. Use of the surveys prepared by outside organizations should be continued and encouraged.

The larger entities have job evaluation systems to help them determine pay classifications. These systems are not consistent with one another. In particular, the systems used by the Metropolitan Municipality and the City are based on quite different principles. Uniformity would be helpful in comparing and analyzing compensation expenditures and personnel practices, but securing it would be difficult, time-consuming and not worth the cost. Responsiblity for the operation and further development of such systems should remain with the individual entities, given the present distribution of responsibility for negotiations.

Labour relations call for highly developed skills. A short training course in collective bargaining for local government officials would be helpful, and perhaps could be offered by the Province.

Other Observations

We saw many cases of well-designed administrative practices in use in one or another of the entities. These entities should publicize the existence of such practices to the other Metro entities. When considering the introduction of new systems and practices, an entity should check with others to see whether an existing system could be adopted or modified.

Program budgeting is a planning and accounting technique that facilitates the measurement of efficiency in performing services and, to some degree, the effectiveness of the results. It relates the costs to the output of municipal programs and activities. It is applied now to some extent in Metro. Greater use should be made of it.

Comparing the costs, output and efficiency of similar functions in similar entities can help to assess performance and serve as a spur to improvement. Information to enable such comparisons should be exchanged freely among the entities.

II. THE STUDY

BACKGROUND

The terms of reference of The Royal Commission
on Metropolitan Toronto include, as Item (g), an examina-
tion of "the system of administration and the relationship
of the administrative organization to the municipal councils
and committees of Council in the development and implementa-
tion of policies in the Metropolitan area".

In the course of its research, the Commission
noted that municipal expenditures classified as "General
Government" doubled from 1968 to 1975. In addition to
the impact of inflation, this rise reflects the greater
complexity of municipal administration and a steady growth
in the use of expensive computer processing facilities.

Some of the briefs to the Commission have sug-
gested that economies of scale might be achieved through
shared administration of certain services. During the
past decade, several studies within the Metropolitan area
examined the practicality and benefits of combined or
shared services, but apart from the contracts for the
Metropolitan Municipality to use the City's computer,
printing and purchasing services, and ad hoc arrangements
in some of the smaller entities, there are few instances
of shared administrative services among the many entities
within Metro.

How would total or partial sharing of administra-
tive functions common to the Metro entities affect their
costs and their effectiveness? To answer the question, a
thorough, comprehensive and independent study was clearly
called for. No participant in the Metro process could
approach such a project with complete detachment. Because
the Commission was examining the Metropolitan area as a
whole without being a direct participant, it was in an
ideal position to initiate a study.

SCOPE

Price Waterhouse Associates were retained by the
Commission on August 23, 1976, to study ten functions
that are found in many or all of thirty-seven jurisdic-
tional entities in the Metropolitan area. Appendix 1
contains our terms of reference.

We were requested to examine the organizational structure and allocation of authority and responsibility for the specified functions. We were to find and analyze opportunities for centralizing, decentralizing or sharing the administration of these functions. In some functions it was necessary to consider the merits of using internal services in preference to those available from the private sector.

Except as related to the allocation of authority and responsibility, the study was not concerned with assessing the efficiency, economics or effectiveness of the individual functions in each entity. The time constraints for the study made this impossible, and therefore the terms of reference were more modest.

The ten functions are: computers and systems, revenue billing and collection, payroll administration, pension administration, auditing, purchasing and stores, printing, mapping, records management and archives, and administrative support to collective bargaining.

Relative to one of these functions - auditing - we wish to record that Price Waterhouse Associates, a partnership practising management consulting, is closely associated with Price Waterhouse & Co., a partnership practising public accounting.

Each of these functions constitutes an internal administrative support service that is an important element in municipal administration and consumes a significant amount of money.

These functions were examined in each of thirty-seven Metropolitan entities: the Metropolitan Municipality, six area municipalities, seven library boards, five hydro commissions, eight boards of education, six boards of health, two parking authorities and two special-purpose bodies. Individually they are:

- Municipality of Metropolitan Toronto
- Borough of East York
- Borough of Etobicoke
- Borough of North York
- Borough of Scarborough
- City of Toronto
- Board of Commissioners of Police
- Toronto Transit Commission

- Borough of York
- The Parking Authority of Toronto
- Parking Authority of the Borough of York
- Metropolitan Toronto Library Board
- Borough of East York Library Board
- Borough of Etobicoke Public Library Board
- Borough of North York Public Library Board
- Borough of Scarborough Public Library Board
- Toronto Public Library Board
- Borough of York Public Library Board
- Hydro-Electric Commission of the Borough of East York
- Hydro-Electric Commission of the Borough of Etobicoke
- Hydro-Electric Commission of the Borough of North York
- Public Utilities Commission of the Borough of Scarborough
- Toronto Hydro-Electric System
- Metropolitan Toronto School Board
- Board of Education for the Borough of East York
- Board of Education for the Borough of Etobicoke
- Board of Education for the Borough of North York
- Board of Education for the Borough of Scarborough
- Board of Education for the City of Toronto
- Board of Education for the Borough of York
- Metropolitan Separate School Board
- Borough of East York Health Unit
- Community Health Department for the Borough of Etobicoke
- Department of Public Health of the Borough of North York
- Board of Health of the Borough of Scarborough
- Department of Public Health of the City of Toronto
- Department of Public Health of the Borough of York

In the early stages of the study we learned that the administrative service functions of the boards of health are handled by the area municipalities, and that the same is true of the Parking Authority in York. In practical terms, these seven entities operate as departments of their boroughs. They did not need separate consideration in our study, and little further reference is made to them in this report. Effectively, then, there were thirty entities to be examined.

OBJECTIVES

The purpose of the study was to:

. explore the ramifications and effects of
identified opportunities for centralizing,
decentralizing or sharing the functions,
and the attendant changes in the allocation
of authority and responsibility;

. evaluate the benefits, financial or otherwise,
and the problems and disadvantages, of imple-
menting such changes.

The results of the study are intended to help
point Metro in the right direction when plans are drawn
up for its administrative functions in the years ahead.

CONDUCT OF THE STUDY

The study began on August 23, and finished in
mid-October. Although the work was done in the short
time span of two months, it was grounded upon a very ex-
tensive amount of information collected and analyzed
by our firm.

Three means of information gathering were
used for this study: questionnaires addressed to
knowledgeable individuals, interviews and reading.

a) Questionnaires

Comprehensive yet concise questionnaires for each
of the ten functions were sent on September 1 to
the 37 entities. The questionnaires asked for
salient information on the nature of the services
provided, the methods used, and statistics on the
volume of work, number of staff members, and costs
for the year 1975. Information was requested on
recent or planned changes in the function, and
views on what could or should be centralized, de-
centralized or shared, and why.

Because the study had to be completed in a short
space of time, the 370 respondents had to do a
substantial amount of work very quickly in order
to fit our schedule. All of the entities complied,
the great majority of them within three weeks
of the day they received the questionnaires. It

is clear from the thoroughness of the information
supplied that they did a highly conscientious
job. Furthermore, many respondents took up the
option to give us more details of their views and
ideas. They elaborated at length upon the opinions
summarized in the questionnaires themselves, or
attached relevant memoranda or reports prepared
earlier. The comprehensiveness of the responses
was of inestimable help to us in carrying through
the study.

The completed questionnaires contain a wealth of
valuable information - facts and opinions - about
the administrative functions of the entities.

b)   Interviews

In September and early October we held interviews
with over 100 people: members of municipal manage-
ment in Metro, elected officials, and provincial
civil servants. Most were interviewed singly, al-
though there were several meetings with groups of
up to eight people.

The people with whom we talked were invariably cour-
teous and helpful. They discussed openly and
thoroughly the many questions we asked and the al-
ternatives we raised.

c)   Reading

Early in the study we read a large quantity of per-
tinent material. This consisted of background
reports prepared for The Royal Commission on Metro-
politan Toronto, earlier studies by municipal staff
or consultants of relevant topics and more general
published material that had some bearing on our
task.

VALIDITY OF THE DATA

Our questionnaires requested highly condensed
information on costs and work volumes (such as the number
of purchase orders or tax bills). We asked for 1975 data
because they were the most recent ones available for a
full financial period.

We reviewed all these data for general reasonable-
ness. However, we could not audit them, nor did we review
them in detail with every entity to inquire how the figures
were made up or to assess their accuracy. Nevertheless,
we found many instances where different bases were used to
arrive at the figures, and in such cases we arranged for
amended data to be supplied.

The data used in this report therefore should
be taken as "order of magnitude" estimates only.

Some entities were able to get most of
the data fairly easily from their accounting systems
or statistical reports. Others experienced more dif-
ficulty because sufficiently detailed records were not
available. There are many cases where cost classifica-
tions differ among the various entities.

In five of the functions the data were com-
prehensive enough to be incorporated into extensive
tables in our report. These functions are computers
and systems, revenue billing and collection, payroll
administration, auditing, and purchasing and stores.

In three other functions, some of the pertinent
costs are available, but in many entities the costs are
diffused and unidentifiable. Pension administration costs
are known in those entities that manage pension funds,
while in the rest the pension administration is a minor
cost and forms part of other jobs. In the mapping
function, the cost of the Central Mapping Agency is
known, but apart from contractual services for aerial
surveys, mapping costs in the municipalities are not
segregated from the cost of related activities in the
operating departments. For records management and
archives, costs were clearly identified in the City
of Toronto and in a few other entities. In most cases
the costs are unknown but appear to be quite minor.

The expenditures incurred at bargaining time for administrative support to collective bargaining are calculable, but the ongoing administrative costs usually cannot be separated from other costs of the personnel department.

The total cost of printing is substantial but hard to determine. Most entities could not distinguish printing from photocopying costs, and many could not establish the aggregate cost of outside printing, since the invoices are charged directly to the requisitioning department.

These difficulties in ascertaining costs or ensuring that they are comparable invariably arise in any study that analyzes costs in more than one municipal entity.

III.   ADMINISTRATIVE ORGANIZATION -
IN PRINCIPLE

Municipal government in Metropolitan Toronto
is big and expensive, let there be no doubt about that.
The table on the next page shows that the entities covered
by the study spent almost $2 billion in 1975, $125 million
of it on general administration. The expenditures of the
ten functions dealt with in the study are mostly classi-
fied as general administration, but probably account for
less than one third of the $125 million total.

The dollar information in the table came from the
entities' annual reports, while the volume figures were
either extracted from other reports or obtained in answer
to direct inquiries on our part. The general administra-
tion expenses shown comprise the "general government"
category in the financial statements of the municipalities,
water utilities and hydro commissions; the business ad-
ministration and computer services expenditures in the
school boards; and general and administrative expenses
in the other entities.

The design of governmental organizational struc-
tures - in administration no less than in operations or
public services - is more an art than a science. There
are few guiding theories - and none of them is immutable.
It is not possible to take as "given" a set of widely
accepted principles, relate the Metro situation to them,
and deduce that certain changes will result in pre-
determined benefits.

The essential question raised in the study is:
will changes in the allocation of authority and responsi-
bility among the entities produce economies and other
benefits while at the same time maintaining or enhancing
the quality of administrative support services?

ECONOMIES OF SCALE

One of the key factors in the study is the
validity of the "economy of scale" hypothesis. No theory
is discussed more widely in the fields of management
organization and enterprise economics - and yet little
is known about its applicability in government. It
says "bigger is better and cheaper". It is a production

EXPENDITURES AND STATISTICS

1975

	Expenditures ($000,000)		Volumes
	Total	General Administration	
Municipality of Metropolitan Toronto (including Board of Commissioners of Police)	437.1	16.5	
Toronto Transit Commission	146.0	8.9	
			Population
Area Municipality* – East York	12.4	1.5	104,677
– Etobicoke	48.5	6.4	293,753
– North York	70.7	9.4	556,044
– Scarborough	52.8	6.6	372,278
– City of Toronto	150.0	28.4	685,333
– York	19.8	2.5	141,086
			2,153,171
			Customers
Waterworks – East York	2.6	.3	22,675
– Etobicoke	7.0	.8	63,575
– North York	14.6	.5	92,080
– Scarborough P.U.C.**	7.5	1.3	74,544
– City of Toronto	19.9	1.8	127,277
– York	2.8	.4	27,448
			407,599
The Parking Authority of Toronto	5.9	1.1	
			Customers
Hydro Commission – East York	10.9	.7	26,274
– Etobicoke	38.9	1.9	88,593
– North York	59.0	3.7	136,052
– Scarborough P.U.C.**	39.1	2.0	87,114
– Toronto	111.4	10.6	202,303
Hydro Department – York	11.6	1.3	34,769
			575,105
			Students
Metropolitan Toronto School Board	72.8	1.4	1,000
Board of Education – East York	18.4	.4	15,000
– Etobicoke	66.2	1.7	53,000
– North York	114.6	3.5	100,000
– Scarborough	118.2	2.5	86,000
– Toronto	149.3	4.1	100,000
– York	30.0	1.2	9,000
Metropolitan Separate School Board	98.8	3.4	92,000
	$1,936.8	$124.8	456,000

* Area municipality expenditures include the library boards and the boards of health.

** Waterworks and hydro commission functions are combined in one public utilities commission only in Scarborough.

line concept, a matter of physically aggregating work
and the resources to do it into larger units. The
theory states that larger groups of people or equipment
working together and doing the same thing are more ef-
ficient than smaller, less specialized units. Employees
in the streamlined groups will have a deeper knowledge
of their tasks, and the work will be done at lowest cost,
faster and at maximum quality.

Without doubt, economies of scale can be secured
in any organization or function of a certain size. At the one
extreme, it does not make sense to have everyone preparing
maps, buying or record-keeping. At the other extreme, the
massive pooling together of resources to perform a common
function - purchasing, or accounting, or computer services -
often has been inefficient, impersonal, slow, unrewarding and
expensive.

At what size can economies of scale be maximized?
At what point is the efficiency stemming from operating
on a larger scale outweighed by intangible but very im-
portant service and human relations considerations?
There are no pat answers.

Consideration of economies of scale is bound
up inextricably with centralization of structure and
consolidation of human and physical resources. These
are the subjects to which we must now turn, as they lie
at the core of the organizational dimensions of our study.

CENTRALIZATION AND CONSOLIDATION

"Centralization" is a vague word which means
different things to different people. Some interpret
it as the raising of authority to a higher organizational
level. Others think of it primarily in physical terms:
creating in one place a large group of people or machines.

To report the results of our study we need a
consistent definition of the terms we employ. We use
"centralization" in the widely accepted managerial
sense: the assignment of authority and accountability
to a more senior organizational level. Decentralization
correspondingly refers to placing authority and accoun-
tability at a "lower" organizational level.

There is no generally accepted term to describe
the physical bringing together of resources in a central

location. Words such as combination, amalgamation, con-
solidation, merger (and sometimes centralization) are
used, but all are ambiguous. In this study we shall call
it "consolidation". Conversely, the spreading out of
people or equipment to more physical locations will be
called "dispersal".

As a rule, the efficiency derived from economies
of scale is not attributable to centralization, but rather
to consolidation. Granted, the two may go hand in hand, but
economies flow mainly from the consequences of consolida-
ting the work and the resources in one spot.

Centralization and consolidation are seldom
absolute. There can be many variations and gradations.
For a particular function, equipment-related activities
might be centralized or consolidated, while people-related
tasks are decentralized or dispersed. It is quite possible
to consolidate work without centralizing it; logic may
indicate that work for several autonomous units should be
brought together in one place, while the authority over
it is shared jointly by the serviced entities.

WHY CENTRALIZE OR CONSOLIDATE?

On the next two pages we set out the benefits
to be derived, in principle, from both centralization/
consolidation and decentralization/dispersal. Such lists
can serve as a useful backdrop to our study, but should
not be interpreted as anything more than that.

CENTRALIZATION/CONSOLIDATION

THE PURPORTED BENEFITS

Specialization
- in employee work skills
- in equipment and technology
- in managerial skills

Productivity
- broader perspective on priorities
- higher output from employees
- improved utilization of facilities
- easier coordination of change
- elimination of duplication in skills, best use of scarce skills
- elimination of duplication in design of systems

Quality of service
- more responsive because more specialized
- opportunities for standardization
- delivery of "equal service" to users
- broader perspective on needs
- faster delivery
- more flexibility
- better quality of output

Economies of scale
- fewer employees, less compensation costs
- fewer managers
- less office space and overhead
- less capital investment
- reduced inventories and carrying costs
- purchase price/rental reductions through bulk buying
- lower costs in total

DECENTRALIZATION/DISPERSION
THE PURPORTED BENEFITS

Support to local
  accountability
- authority closer to point of action
- local control over service
- integration of local priorities
- local control over costs

Productivity
- encouragement of local initiative
- fostering of innovation
- better and quicker decisions

- higher output from employees
- higher morale and job satis- faction
- tailoring of work to local needs
- close to users
- clearer and faster communications
- simple administrative routines
- easier coordination of change
- avoidance of overspecialization
- less risk in unavoidable shut- down of service

Quality of service
- more responsive because more knowledgeable of local needs and situations
- faster delivery
- more flexibility
- better quality of output
- employee pride in serving local users

Costs
- fewer employees because staffing related to local needs and priorities
- compensation at local levels instead of highest common denominator centrally
- matching standard of service to local needs, avoiding delivery of unneeded quality or volume of service
- reduced travel, communications and delivery costs
- lower costs in total

Some of the listed benefits of centralization can be described with equal force as benefits of decentralization. For example, a higher quality of response to user needs can be used as an argument in favour of either. It all depends on the real-world situation.

Most of the advantages either way are intangible, and difficult to prove either before or after the fact.

The issues are laden with emotions and coloured by personal attitudes. A municipal official at a local level may tend to believe, quite sincerely, that decentralization is better, and that local autonomy and control must be preserved in order to satisfy local accountability. On the other hand, a municipal official at a senior governmental level is likely to feel, equally sincerely, that centralization fosters consistency, breadth and a high quality of service.

In the minds of many people today, centralization is "bad" and decentralization is "good". The public distrusts bigness. People react instinctively against centralization, which conjures up visions of bureaucracy, red tape, delays, impersonality, remoteness and indifference. Decentralization is virtuous: it is down to earth, informal, flexible, humane, responsive and right.

Yet a balance between the poles must be maintained. Indeed, the essence of our democratic and our political process is the existence of checks and balances. These should ensure an appropriate balance of local knowledge and broader perspectives.

PUTTING ORGANIZATION IN ITS PROPER PLACE

Selecting the best organizational structure and allocation of responsibility comes near the end of this type of study, not at the beginning. Designing the organization structure must follow a clear definition of needs, of the work to be done and of the resources required to do it - not the other way around. "Form follows function." The structure must not be the tail that wags the dog.

We therefore examined, without organizational preconceptions, each of the ten functions with reference to three questions: What work must be done? Why must it be done? and by what process can it best be done? We had to take many factors into account: the needs of the users of the service, their location, the quality of the service they require, the speed with which it must be provided, the technology available to provide it, and the human factors involved. From these manifold considerations we tried to work out the most logical framework for the allocation of resources: people, material, equipment and techniques. Only then could we deal with the organizational questions: Who should do the work?, Where should they be?, Who should be repsonsible?, And how is accountability maintained?

Often the answers to those latter questions bear little relationship to general principles of organization. They depend rather upon the nature of the service, the needs of the users and the state of the art in supplying the service. For example, the way in which operating departments can utilize computer processing has developed tremendously over the past 20 years. Improvements in technology led to many changes in the way computer services are organized. In particular, it caused computer terminals or other facilities to be placed at the disposal of operating departments, so that they can determine in many areas what information they want and process it themselves.

The organizational consequences can change, even reverse themselves, as time passes. New computer technology in the 1960's caused many governments and companies to consolidate their computer facilities under a central authority. In the 1970's, the next stage of technological development is causing some dispersion of computer equipment and a related decentralization of authority.

OTHER CONSIDERATIONS

Several other factors guided our approach to the study.

The municipal entities have broad responsibilities, for which they are accountable to the public. Administrative services must support that autonomy and accountability. We were most reluctant to propose any change that might conceivably undermine or inhibit local accountability, unless the benefits clearly outweighed the risks. When an issue was not a significant one, or the benefits of centralization were marginal, we preferred leaving the function, and authority over it, with the entity that is now accountable for it.

We had to deal with Metropolitan Toronto as it is in 1976 or is expected to be in the foreseeable future. Making changes involves not only introducing something new, but undoing what already exists. Converting present practices to new ones can be expensive. The benefits of change must be substantial enough not only to offer lasting value but also to cover the one-time cost of the changeover.

When organizations have problems there is a tendency to look for structural solutions. If things are not working well in a centralized area, then decentralizing is tried. If one the other hand a consolidated operation runs into trouble, then it may be dispersed. Invariably the intended result is a smoother operation, better service and lower costs. Yet the problem may not be a structural one at all. In our study we have avoided recommending change for the sake of change, or proposing structural answers to non-structural problems.

In proceeding with the study we kept the theoretical considerations constantly in mind. But primarily we endeavoured to look pragmatically at the actual problems, needs, plans and opportunities within Metro.

The next ten chapters deal one by one with the administrative functions we were asked to examine. Our analysis in each instance takes account of what is done, what needs to be done, and the best way to do it. After these questions have been explored, we propose who should do the work, with what authority, at what level, and where.

IV. COMPUTERS AND SYSTEMS

1. THE FUNCTION

Computers are big business in the Metropolitan Toronto entities. In 1975, almost 500 people were employed, running 20 computers at a cost of $13 million.

In the Metropolitan entities, the computer and systems function goes under a variety of names: management information systems, computer services, information services, EDP services, or data processing.

The function generally covers:

- definition and documentation of the operating and managerial information requirements of the entity;

- development of computer systems, programs and associated procedures required to meet users' information needs;

- data assembly and control, data processing and storage on the computer facilities, and delivery of the required information in printed or other visual display form;

- assessment of the entities' future computer and systems requirements;

- development of medium and long-range plans to meet those requirements, and evaluation of equipment, methods and new systems approaches.

Essentially the work comes down to two rather distinct tasks:

- determining the information needed and designing systems to produce it;

- producing the information by running the systems on the computer equipment.

2. RESPONSIBILITY

Most of the Metropolitan entities have their own computer and systems departments. Sometimes the department does

not cover all the responsibilities listed in the pre-
vious section. For instance, some of the library boards
do not design systems or have their own computers - but
they do use outside services provided by the boroughs,
chartered banks or the University of Toronto.

Following the general pattern in the private
sector, the computer and systems department usually comes
under the senior financial officer of the entity. There
are however some exceptions:

Department in	Reports to
Police Commission	Deputy Chief, Administrative Operations
Scarborough Board of Education	Director of Education
Toronto Board of Education	Associate Director of Education
York Board of Education	Director of Education
Scarborough Public Utilities Commission	Assistant General Manager

3.   THE PROCESS

Computers

The next page lists the computer facilities of
the Metropolitan entities. Twenty have their own machines,
with only the City's being a large-scale one. Ten of the
computers are rented. Ten are owned, and eight of these
are at least six years old (and that is old for a computer).
The other ten entities obtain computer processing from
another entity or from outside sources (shown in brackets
on the list). They are the Municipality of Metropolitan
Toronto, Metropolitan Toronto School Board, Etobicoke
Board of Education, East York Hydro and six of the library
boards.

The Municipality of Metropolitan Toronto,
which once had its own computer, has arranged for the
great majority of its computer processing to be done
through the City's facilities. A small amount is
handled by the Borough of North York.

The Metropolitan Toronto School Board uses com-
puting facilities provided by IBM's commercial data centre
services and the Toronto Board of Education.

COMPUTERS

	Computer	Acquired	Rented	Purchased
Municipality of Metropolitan Toronto				
Board of Commissioners of Police	(City) Burroughs B6748	1975	X	
Toronto Transit Commission	IBM 370/125	1976	X	
Area Municipalities – East York	IBM 360/20	1968		X
– Etobicoke	Univac 9400	1972	X	
– North York	IBM 370/115	1974	X	
– Scarborough	Univac 9480	1973	X	
– City of Toronto	IBM 370/158	1973		X
– York	Univac 9300	1968		X
The Parking Authority of Toronto	Philips 320	1976	X	
Library Board – Metropolitan	(External)			
– East York	(Borough, bank)			
– Etobicoke	(University of Toronto)			
– North York	(Univ. of Toronto, Seneca College, Borough)			
– Scarborough	(Univ. of Toronto, Borough)			
– Toronto	Burroughs L9541/109; (City)			
– York	(External)			
Hydro Commission – East York	(Borough)			
– Etobicoke	IBM System 3	1976		X
– North York	Univac 9300	1969		X
– Scarborough P.U.C.	Honeywell 1015	1975	X	
– Toronto	IBM 370/125	1974		X
Metropolitan Toronto School Board	(Toronto Board and external)			
Board of Education – East York	Honeywell 120	1970		X
– Etobicoke	(Min. of Education, Datacrown)			
– North York	IBM 360/30	1966		X
– Scarborough	Honeywell 1200	1968		X
– Toronto	IBM 2040	1976	X	
– York	Honeywell 125	1968	X	
Metropolitan Separate School Board	Univac 9030	1975		X

East York Hydro obtains computer processing services from the Borough of East York.

The library boards use a variety of sources for computer processing, including a bank, commercial data centres, Boroughs, the University of Toronto and Seneca College. The Toronto Board has a minicomputer.

The Etobicoke Board of Education employs computers through the Ministry of Education and at Datacrown Ltd., a commercial data centre, by means of a computer input/output terminal installed on its premises.

Thus, while each of the thirty entities has full autonomy to make its own arrangements for computer processing, a few have chosen to enter into some form of sharing with other Metropolitan entities. Of these sharing arrangements, only the one between the Metropolitan Municipality and the City is really significant in terms of scope of processing services and load.

For instance, the Metropolitan Municipality's Social Services Department uses seventy-five remote visual display and printer terminals connected to the City's computer. In addition, the Metropolitan Municipality's other administrative, financial and operations systems account for 32 per cent of the processing load on the City's computer. The cost to the Metropolitan Municipality for computer processing provided by the City, plus related equipment, was close to $900,000 in 1975 and was expected to increase by about 25 per cent in 1976.

The Borough of East York handles the computer and systems work for East York Hydro. While the Etobicoke Board of Education does not share facilities with other Metropolitan entities, it does use the computer processing and various systems provided by the Ministry of Education, as do a number of other school boards outside the Metropolitan area.

Systems Using Computer Processing

A tabulation of the main uses of computers in each entity is given on the following page.

In the boroughs and the hydro commissions, by far the biggest computer systems are those for billing

COMPUTER USES

(over 5 per cent of computer time, or an external service)

| | Billing/Collections | | | | | |
	Taxes	Water	Power	Payrolls	Accounting	Other
Municipality of Metropolitan Toronto				X	X	Social services, engineering
Board of Commissioners of Police				X		Police operations
Toronto Transit Commission				X	X	Stores, maintenance
Area Municipalities – East York	X	X	X	X	X	Library
– Etobicoke	X	X		X	X	Licences, Metro parking tags
– North York	X	X		X	X	
– Scarborough	X			X	X	Stores, library, licenses, assessment
– City of Toronto	X	X		X	X	Operating data
– York	X	X		X	X	
The Parking Authority of Toronto				X	X	Revenue
Library Board – Metropolitan				X	X	
– East York						Circulation
– Etobicoke						Circulation
– North York				X		Circulation
– Scarborough				X	X	Circulation
– Toronto				X		Circulation
– York				X		Circulation
Hydro Commission – East York			X	X		
– Etobicoke			X	X	X	Stores
– North York			X	X		Stores
– Scarborough P.U.C.		X	X	X		Stores
– Toronto			X	X		
Metropolitan Toronto School Board				X	X	Student info., student learning
Board of Education – East York				X	X	"
– Etobicoke				X	X	"
– North York				X	X	"
– Scarborough				X	X	"
– Toronto				X	X	"
– York				X	X	"
Metropolitan Separate School Board				X	X	"

taxes, water or electricity. Most of their other systems deal with payrolls and general accounting. The Borough of Scarborough keeps a master property register and assessment data on its computer.

The City has the usual billing, payroll and accounting systems. It has a large number of systems for operating or administrative departments: property records, processing of Council minutes, street records and the like.

The Metropolitan Municipality's largest computer use is its advanced system for the Social Services Department to keep track of its clients. Considerable processing is done to aid engineering design and to serve the operating departments. Payrolls and budget expenditure reports are significant systems.

The Police Commission has a large number of systems to help police operations: "occurrence" reporting, property records, crime reports, court notifications, fingerprint records, etc. It also has the ubiquitous payroll systems.

The Toronto Transit Commission's computer systems include accounting, payrolls and stores records. Major systems provide information to assist in managing material inventories and the maintenance of vehicles and equipment.

The school boards have computerized a variety of financial systems: accounting, budgets, payrolls, stores and sometimes maintenance. All of them have several systems to help in academic administration: student attendance records, timetabling, grade reporting, scoring of tests, and other student records. They also make facilities available for students to use in courses on science, data processing or mathematics.

Three of the library boards - Etobicoke, North York and Scarborough - use the University of Toronto computer to run the University - developed Library Automation System for book cataloguing and/or book circulation control. The North York Library Board uses the Seneca College computer, and the East York Board the Borough's facilities, for circulation control. The Toronto Board is experimenting with circulation control in the Northern District, employing the City's computer.

The Parking Authority of Toronto handles revenue, payroll and general accounting records on a small computer.

Some of the boards of health use the services of the provincial Ministry of Health to process data on schoolchildren's health and dental records, public health inspections and nursing activities.

4.   STATISTICS ON WORK DONE AND COSTS

The next page analyzes the 1975 cost of the computer and systems function in the thirty entities. The cost does not include depreciation expense for purchased equipment, although it does include payments in 1975 for a certain amount of newly purchased equipment.

People costs - over $7 million - make up more than half the total. Most of the remainder is spent for equipment rental and contracted services.

One-third of the cost was incurred by the three Metropolitan-level entities. The City spent sixteen per cent of the total.

Some of the entities figure out how much of their computer usage or system design work is devoted to each system. Thus they are able to establish what each system costs, and may charge this cost to the user department. But most of the entities do not keep such records or make such charges. Accordingly it is not possible to compare the costs of similar systems within various entities.

The succeeding page tabulates the number of computer and systems staff in each entity - 471 in all - classified into managerial, systems design and programming and computer operations personnel.

5.   THE KEY ISSUES

a)   Present Equipment

Most of the computers owned (not rented) by the entities were bought before 1970. Unless an attractive "shared" processing arrangement becomes available in the next few years, these

COMPUTERS AND SYSTEMS
ESTIMATED COSTS – YEAR 1975
($000)

	Compensation & benefits	Supplies & Misc.	Equipment Rent	Equipment Purchase	External Services	Inter-entity Charges* (Credits)	Total
Municipality of Metropolitan Toronto	$1,018	198	83		244	826	2,369
Board of Commissioners of Police	477	50	311			109	947
Toronto Transit Commission	559	80	282				921
Area Municipalities – East York	119	24	20	23		(73)	113
– Etobicoke	260	17	126	2			405
– North York	245	26	141			(23)	389
– Scarborough	394	45	293		41		773
– City of Toronto	1,140	161	1,287	297	104	(916)	2,073
– York	135	16	7	18	4		180
The Parking Authority of Toronto	45	2	9				56
Library Board – Metropolitan	18	10			12		40
– East York					2	8	10
– Etobicoke							-
– North York	54		11		103	4	172
– Scarborough					50		50
– Toronto	35	15	14				64
– York							-
Hydro Commission – East York						65	65
– Etobicoke	169		55				224
– North York	226	35	56	52			369
– Scarborough P.U.C.	209	76	116				401
– Toronto	387	52	80	61	19		599
Metropolitan Toronto School Board	22	2	1		12		37
Board of Education – East York	101	9	11	11			132
– Etobicoke	226	24	35		91		376
– North York	346	104	132		11		593
– Scarborough	331	56	53		8		448
– Toronto	417	39	93				549
– York	90	45	11	36	5		187
Metropolitan Separate School Board	229	22	111				362
	$7,252	1,108	3,338	500	706	-	12,904

* Charges and credits for computer services furnished by one entity to another.

COMPUTERS AND SYSTEMS STAFF

NUMBER OF EMPLOYEES

DECEMBER 31, 1975

	Managerial	System design and programming	Operations	Total
Municipality of Metropolitan Toronto	6	35	23	64
Board of Commissioners of Police	2	8	25	35
Toronto Transit Commission	5	12	25	42
Area Municipalities – East York	1	1	7	9
– Etobicoke	4	7	7	18
– North York	3	4	10	17
– Scarborough	4	8	15	27
– City of Toronto	8	22	25	55
– York	1	3	6	10
The Parking Authority of Toronto				
Library Board – Metropolitan			3	3
– East York			2	2
– Etobicoke				–
– North York	1		4	5
– Scarborough				–
– Toronto				–
– York				–
Hydro Commission – East York				–
– Etobicoke	1	1	7	9
– North York	3	3	7	13
– Scarborough P.U.C.	1	3	11	15
– Toronto	3	6	14	23
Metropolitan Toronto School Board		1		1
Board of Education – East York	1	2	3	6
– Etobicoke	1	5	10	16
– North York	3	9	14	26
– Scarborough	3	6	13	22
– Toronto	4	6	17	27
– York	1	2	15	18
Metropolitan Separate School Board	3	5	10	18
	59	149	263	471

machines probably will have to be replaced by
more modern equipment. These older machines
cannot support on-line systems as efficiently and
effectively as the newer computers can. However,
because the owned computers have been paid for
and in a sense are "free", the entities have low
processing costs which would be difficult to equal
under a "shared" arrangement.

The workload of the computers varies widely from
one shift a day for five days a week to twenty-
four hour, seven day a week operation. In total
there is an appreciable amount of unused capacity
outside of regular office hours.

Most of the entities would face a major conversion
job if they were to modify their computer programs
to use "shared" processing provided by a central
facility.

b)   Present Systems

In the absence of any overall planning, coordination
or joint development, the entities have designed
their own systems and programs. Often these were
highly dependent on the type of computer they selected
and the programming techniques associated with their
computer model and manufacturer.

A number of opinions have been expressed that the
development and sharing of common systems offer the
only possible hope for a significant reduction of
computer costs in Metropolitan entities.

To obtain the benefit of "common" systems, it would
be necessary to secure suitable computer equipment.
The options would be:

   .   a central computer with input/output terminals
       located in the entities;

   .   a central computer with smaller computers in
       the entities handling local segments of the
       common systems;

   ;   compatible computers located in the entities
       and capable of performing all processing
       without recourse to a central computer.

We return later to the matter of common systems.

c)   Developments in Recent Years

   On-line Systems

Arrangements for a computer to be linked "on-line"
to display screens in the users' departments are
becoming increasingly popular. The following
entities use on-line systems in varying degrees:
Municipality of Metropolitan Toronto, City of
Toronto, Borough of Etobicoke, Borough of North
York, Borough of Scarborough, Borough of York,
Police Commission, T.T.C., Metropolitan Toronto
School Board, Toronto Board of Education, Metro-
politan Separate School Board, Etobicoke Library
Board, North York Library Board, and Scarborough
Library Board.

The biggest on-line system is one installed for the
Municipality of Metropolitan Toronto Social Services
Department, which has visual display devices and printers
located in numerous offices to supply information, via
data transmission lines, from a large central bank of
data kept by the City's computer. Social service
staff in the local offices can obtain stored infor-
mation practically on demand, without having to fit
in with other processing schedules set by computer
operators at the central computer site.

This kind of system is applicable in many of the
entities. Several are introducing such on-line
systems to provide almost instant response
to inquiries from taxpayers and utilities customers
about their accounts, or from their own staff about
inventory availability.

   Computer Utilities

During the past few years many private and some
public sector organizations which had their own
in-house computers chose to give them up and enter
into some form of shared processing. Arrangements
were made with other associated organizations or
with computer utility companies equipped to provide
this service. The Etobicoke Board of Education
adopted this approach, and uses the systems and
processing services offered by the Ministry of
Education and Datacrown Ltd. The City of Toronto's

processing services for the Metropolitan Municipality
are similar in concept. Both City and Metropolitan
Municipality officials told us they were generally
satisfied with the arrangement.

Minicomputers

The emergence of minicomputers specially developed
for commercial use has had an enormous impact on
data processing methods. These minicomputers have
most of the physical components found in the larger
machines. The majority enable users to record
data by using visual display units and printers
of the type previously referred to in the Social
Services System. The data, once entered, can be
checked immediately for accuracy by the computer.
The same display units and printers are used to
retrieve information when fast response is required.
Minicomputers are generally cheaper for on-line
processing than the bigger general-purpose computers.

Many users of big, centralized general-purpose
computers are planning to replace some of them
with a set of minicomputers installed at key opera-
ting locations and linked by means of communications
lines. Technically, the new approach is known as
"distributed" data processing.

The Metropolitan Municipality is exploring the merits
of using minicomputers to handle most of the on-line
work in the Social Services Department system now done
on the City's large computer. The Etobicoke Board of
Education currently is selecting a minicomputer to
replace its computer terminal equipment. This will
give the Board a local on-line computing capability
which it does not have now. It would continue to use
a large computer for its high volume processing.

d)   Sharing Processing and Systems

Judging by the replies to questionnaires and opinions
expressed during our interviews, the entities seem to
be reasonably satisfied with their computer and
systems services.

With the benefit of hindsight, it is clear that over
the past decade there has been a great deal of
duplication among the entities in designing systems,
especially in such common functions as tax billing,
utility billing, payrolls and general accounting.
Furthermore, a considerable amount of untapped com-
puting capacity has developed.

Most of the high-volume routine tasks are now being
done by computer batch processing methods. The
first wave of computerization is over and the next
wave has begun: many of the entities are adopting
more advanced methods and moving strongly into
on-line systems. This will probably lead to a new
round of computer equipment replacements or upgrading.
And - unless a cooperative approach is adopted - there
will be more duplication among the entities in crea-
ting the new systems. Some of this duplication already
can be seen in the development of systems for on-line
property records, road records and inventory control.

The obvious question is "Wouldn't it be much cheaper
for the entities to share computers and to design
common systems?". The answer would probably have
been "yes", if the sharing had been planned before
the entities acquired their own computers and conceived
their own systems. Now it is extremely difficult to
give an answer. The computers came from different
manufacturers and the computer programs often cannot
be run on other manufacturers' machines. The existing
systems are quite different, having been designed
separately, even though the objectives may be the
same.

Why should the entities want to take part in a sharing
arrangement? They are quite pleased with their present
service. They have complete control over the work.
They can alter processing schedules and assign employees
to jobs according to their own needs and priorities.
They can accurately forecast and control their pro-
cessing costs.

In December 1969, a Management Committee and a Technical
Committee were appointed, under the aegis of the Metro-
politan Municipality, to study computer requirements in
the Metropolitan area. On April 9, 1970 the Management
Committee met to review an interim report from the
Technical Committee, and (as stated in the minutes of
the meeting) concluded that:

- "Consideration as to centralization of
  computer facilities is premature at this
  time;

- "Studies with respect to new applications should
  not be proceeded with at this time;

- "The Technical Committee will be requested to
  proceed with studies as to existing applications
  such as payroll, tax billing, etc., in order to
  determine to what extent standardization of
  systems can be achieved in specific areas."

The Technical Committee noted that if the required
services were to become broader, standardization or
centralization might save money. These conclusions
were arrived at after acceptance by the Management
Committee of the key finding of the Technical Commit-
tee: "There is no economic advantage to centralizing
computer facilities without standardization of some
of the major existing applications".

As it turned out, no further action was taken.

Since 1970 there have been major changes in computer
technology, and extensive growth in the entities' use
of computer facilities and advanced systems.

It is pretty difficult to prove that economies result
just from sharing machines. The Etobicoke Board of
Education uses computer services from Datacrown Ltd.
and the Ministry of Education. When the Etobicoke
Board's costs and key data processing work volume
indicators - number of students, teachers, other
staff and schools - are compared to, say, those of the
North York Board there is no solid evidence that
Etobicoke has achieved lower costs or higher per-
formance. Still, the Etobicoke Board has managed
to keep overall computer and systems costs during
the last five years at the 1970 level, in spite of
inflation and big increases in public sector salary
and benefit costs.

The other major example of sharing is the arrange-
ment between the Municipality of Metropolitan Toronto
and the City of Toronto. While it is difficult to
assess the resulting economies, the Social Services
System is not considered satisfactory in terms of
cost or of the time taken to get information into
and out of the central computer. To overcome the
problem, the Metropolitan Municipality may place
minicomputers in local areas, to make information
available promptly and place it under local control.

In 1973 our firm examined for the Toronto Transit
Commission the pro's and con's of the T.T.C. giving
up its own computer and using shared processing
available from either a private computer utility or
the City. We found that the cost from these two
potential suppliers would be about the same, and
that a small saving could come from going outside
the T.T.C. When the cost and upset of making the
change was taken into account, we felt that the
case for sharing was not strong enough to justify the
change.

In 1972 we prepared a cooperative plan for computer
services for the Metropolitan Toronto School Board.
We concluded that a shared arrangement involving
all public Metro Boards of Education would be bene-
ficial. We said that the best approach would be to
get computer processing from an independent computer
utility and to design common systems in financial
and academic administration areas.

In the light of these earlier studies, and others
which our firm has conducted for corporate clients,
we do not believe that an across-the-board conversion
to shared processing would in itself result in
significant savings for the entities.

Of the $13 million spent in 1975 on computers and
systems, about $4½ million was spent by the Metro-
politan Municipality and the City - which already
share their processing. Nine of the entities own
their computers. Some of the other, rented ones have
very high utilization, particularly at the Police
Commission and the Toronto Transit Commission.

These factors would make it hard to obtain signi-
ficant reductions in processing costs under a sharing
plan.

But there is an important proviso. Many entities are
modifying their systems to use on-line or other ad-
vanced methods. Several older owned machines will
have to be replaced and others upgraded. And computer
usage is increasing as new computerized systems are
developed. When these factors are taken into account,
we believe that an arrangement for shared systems
combined with shared processing would be beneficial
in the long run.

Such a decision to share would require the develop-
ment of basic systems for uses that are common to many
or all the participating entities. Examples are:

- payrolls and personnel information

- general accounting records, budgets and control
  reports

- materials inventory management

- tax billing and accounts receivable

- water meter records, billing and accounts
  receivable

- hydro meter records, billing and accounts
  receivable

- property records

- road records

- text processing and information retrieval systems
  for Council minutes and reports

- student records and attendance reports

- grade reports

- student schedules

The systems must be designed in building-block fashion, so that individual entities can add or subtract elements depending on their special circumstances. And of course the entities must be able to create and run their own systems in other areas - on their minicomputers, on the central facilities or (if better and cheaper) through outside services.

The approach would require one or more central, large computers to do massive processing jobs such as billings, accounts receivable, payrolls, student grade reporting and timetabling. The entities would use minicomputers for the on-line recording and looking up of data, for some local processing and for use as a terminal to send data to and receive information from the central computer. If two or more central computers were needed, they should be obtained from the same manufacturer and use the same operating methods. The minicomputers should also be obtained from one manufacturer and capable of using the same programs.

Computer programs for the basic systems should be written in a "high level" business programming language such as ANS COBOL. The programs for the minicomputers probably should be written in a high-level language which is well suited to on-line systems. Except where there is a compelling reason to use other programming languages, those two languages should also be used for the other systems that are specific to individual entities.

We believe this shared systems and processing arrangement meets the criteria for acceptable service, economy, flexibility and local control:

- Local autonomy: Representatives from the individual entities would participate in defining and designing the basic systems. The entities would be free to develop other systems for processing on the central computer, their own minicomputer or external facilities.

- Responsiveness: Information required frequently and quickly would be available from local computerized records. High-volume

routine work would be done on the central computer under priority ratings set by the local entity.

. Service level and quality control: Except for high volume inputs like meter reading cards and payment cards, and high volume outputs like tax, water and hydro bills and pay cheques (which would be handled at the central computer $ite), most of the other operations would be carried out by local staff on local equipment and would be monitored and controlled locally.

. Cost: It is unlikely that equipment and processing costs would decrease appreciably. But increased use of on-line processing would provide a good opportunity to reduce managerial, systems development and computer operating staff in the computers and systems functions, and other support staff elsewhere.

. Technical practicality: The concept of the data utility or central service computer is now widely used. The City provides this type of service. Using minicomputers to put the processing logic and data storage where transactions occur, and connecting them by communications lines to a central processor where large-volume processing takes place is a concept which already has been successfully implemented by a number of private sector organizations.

. Growth potential: The processing capacity of the central computer can be raised by adding storage, printers or input devices and further increased by linking two or more central computers (as the City of Toronto is now contemplating). The minicomputers can be upgraded by adding pieces of equipment, and further by joining a number of minicomputers into a local network. By using a single supplier for the central computers and a single supplier for the minicomputers, systems and computer programs can be handled without having to change them when equipment is added or upgraded.

- Uniformity and standardization: Shared use of common, basic systems would enable all entities to report information consistently with each other. Having only one type of central computer and one type of minicomputer would permit a high degree of uniformity and efficiency in systems design, computer operation, documentation, staff training and user education.

In concluding that a shared systems and processing arrangement offers long-term benefits to the Metropolitan entities, we were influenced by the similarity of many of the systems required by the area municipalities, utilities, boards of education and library boards. Two entities which have large computer and systems functions, but in many ways are unlike the other entities, are the Police Commission and the Toronto Transit Commission. Both have computers with very high utilization. For these reasons we feel that they should not be included in the sharing arrangements, at least initially.

The shared arrangement might be based on the use of one, or possibly two, central computer facilities. If there were just one central facility, we would expect that two linked, large computers would serve as the central processor for all the Metropolitan entities participating.

If there were two central facilities, probably the boards of education would be served by one and all other participating entities by the second.

Correspondingly, one or two groups of people could be brought together to develop the common, basic systems. If there were two, one would create systems for use only by the boards of education, while the second would design all other basic systems including payroll and personnel, accounting and budgeting, billing and inventory management.

Once shared arrangements were justified and authorized, implementation would be spread over several years. The changeover would be complex and costly. The main steps would be:

- form a group of specialists to work with the entities to define and develop the basic, common systems;

- determine the characteristics and power of the central computers required;

- determine the characteristics of the mini-computers required;

- stop buying new computers;

- see that no new long-term computer leases are signed which extend beyond a selected date, and that thereafter all leases are for one year only;

- work out arrangements for the funding of the central facilities and for the apportionment of their costs;

- select one entity to test the shared approach;

- install the first minicomputer and arrange for a Metropolitan entity to provide central facilities through a computer already in use;

- convert and run systems under the new shared arrangement;

- refine the systems and processing arrangements;

- carry through a phased program for the other entities.

e)   <u>Organizational Considerations</u>

The shared approach that we are proposing for the computer and systems function is intended to capitalize upon the latest developments in computer technology, avoid duplication in designing systems, provide fully acceptable service to the users of the systems, keep adequate local control and minimize costs.

None of these objectives - or the way we propose that they be achieved - is predicated upon organizational

theories. Instead, the logic of how computers
and systems can best be operated is the prime
determinant. Economies of scale do not enter
heavily into the picture. And structural
factors follow, rather than precede, the logic
of the process.

The proposed approach is a hybrid in organiza-
tional terms. It combines centralization of
authority for some tasks with decentralization
for others. It combines physical consolidation
of some of the work with dispersion of the
rest.

Two key activities would be centralized and
consolidated: the design of common, basic
systems and the operation of the central
facilities. Who would be responsible for them?

Where there's a will, there's a way. If the
proposed approach to sharing is justified and
accepted, we believe that a satisfactory way
can be found to manage the central activities.

There are four organizations which could take
on the central job:

- The City, which now has the most powerful
  computer, has a record of successful sharing
  with the Metropolitan Municipality, is ex-
  perienced in the use of computer terminals
  and on-line systems, has a large and skilled
  systems and computer staff, and has developed
  many advanced computer uses.

- The Metropolitan Municipality, which in some
  other functions (such as mapping) furnishes
  a Metropolitan-wide service, is experienced
  in computer sharing (with the City), has a large
  and skilled systems staff, and has (through the
  Social Services system) extensive experience
  with advanced systems.

- The Government of Ontario, which is organiza-
  tionally distinct from all the Metropolitan
  entities. Although it is remote from them,
  exercises a regulatory role over them and has
  many other activities and priorities, it has
  experienced staff to provide support and is
  already involved in central processing of a
  number of local bodies' data.

. An independent central agency, controlled, operated and funded jointly by the partici- pating entities.

The choice among these four alternatives has relatively little bearing on the basic issue. If (and only if) agreement is reached on the shared approach from the standpoints of service, efficiency and cost, then, we believe, a suitable organizational locale for the central activities can readily be found.

6. RECOMMENDATION

Because of the fundamental nature and the wide ramifications of the shared approach discussed above, we make one broad recommendation.

i) A detailed study should be conducted of shared computer and systems services in the Metro- politan entities, based upon:

. the cooperative design of common, basic systems applicable in many or all entities, with

. a combination of central and local computer facilities,

that provide satisfactory service, keep effective local control and minimize costs.

The study should:

. assess in depth the benefits and problems of introducing shared services;

. determine the costs of creating and operating the shared services, and the savings therefrom;

. lay out a comprehensive plan and timetable for establishing, structuring and managing the shared services.

V.   REVENUE BILLING AND COLLECTION

1.   THE FUNCTION

The entities receive revenue in many forms. The area municipalities have their taxes, payments in lieu of taxes, water rates, interest and a variety of special charges, plus their provincial grants and payments. The hydro commissions have their electric rates. The Metropolitan Municipality and the Board of Commissioners of Police draw their revenue essentially from levies upon the area municipalities and from the provincial government, although both have other small sources of revenue such as rentals and interest income.

Apart from governmental assistance, the Toronto Transit Commission's revenue comes principally from fares, supplemented by charters and special services. Almost all the revenue of the boards of education are raised through the taxes levied in the area municipalities and from provincial grants.

Beyond their allocation from the municipalities' budgets, the only revenue of the library boards is minor income from fines on overdue books, sale of publications and the like. The health boards' costs are paid for in part by the area municipalities and in part by the Ministry of Health.

Our study examined the billing and collection of taxes and of water and electricity charges. These constitute major administrative functions. Their handling requires a total of well over 600 people at a cost in 1975 of $11 million, excluding related data processing costs. The function embraces the preparation, checking and sending of bills for taxes, water and hydro, receiving and recording payments, keeping records of amounts unpaid and undertaking the efforts necessary to collect unpaid bills. For water and electricity, the function includes the reading of meters and the paperwork involved in opening and closing accounts when occupancy changes.

All other revenues - governmental support, special receipts and miscellaneous income - did not form part of the study and are not dealt with further.

2.   RESPONSIBILITY

The billing and collection of taxes in the area
municipalities is done by a tax unit or department under
the treasurer. The corresponding responsibility for water
is also placed with the treasurer, except in the case of
the Borough of Scarborough, where responsibility for both
hydro and water lie with the Scarborough Public Utilities
Commission. The hydro commissions in East York, Etobicoke,
North York and Toronto have departments that handle billing
and collections under the overall jurisdiction of their
treasurer. In York, the hydro utility is a department of
the Borough, and the billings and collections function
comes under the Treasurer of the Borough.

The property assessment function is the responsi-
bility of the Assessment Division of the provincial Ministry
of Revenue. The Ministry provides assessment information
to the area municipalities as the basis for producing their
tax rolls and bills.

3.   THE PROCESS

There is a substantial degree of uniformity among
the area municipalities in handling taxes and water charges,
and among the hydro commissions in handling charges for
electricity.

An interim and a final tax bill are rendered each
year, based either upon the official assessment roll or
an updated version of an earlier roll. As might be expec-
ted, though, there are many procedural variations from
municipality to municipality. These include differences in
the timing of the bills, the arrangements for the taxpayer
to make instalment payments, the manner in which a variety
of special charges are billed and penalties for late re-
mittances.

In the municipalities, responsibility for receiving
payments usually lies with financial department sections res-
ponsible respectively for taxes and water billings. In some
municipalities, the tax section runs a cashier operation to
process collections of both taxes and water rates.

Similarly, the basic processes for handling water and electricity accounts are much the same among the area municipalities and hydro commissions. Still, there are numerous local variations. In the City of Toronto, for example, a high proportion of water bills are based on a "flat rate" rather than upon meter readings. The Scarborough Public Utilities Commission has devised administrative practices whereby an employee reads both water and electricity meters in one visit to the premises. It issues a combined bill covering water and hydro.

In all three areas – taxes, water and electricity – massive amounts of detail have to be gathered and processed. Very large quantities of transactions, mostly for fairly small amounts, must be handled quickly and accurately. Speedy attention must be given to taxpayer and ratepayer enquiries about their accounts.

Extensive amounts of time go into following up and collecting delinquent accounts, with routines providing for successively stiffer actions. These include notices, telephone calls and law suits. In the case of taxes, a bailiff will become involved when other means fail, and non-payment may ultimately lead to a tax sale of property. A threat to stop service can be used to expedite payment of water and electricity bills. Overdue water and hydro charges may be added to tax bills, and thus constitute a lien on the property. The hydro commissions employ independent collection agencies as a further device to collect overdue accounts.

With the large volumes of transactions and the repetitive nature of the work, computerized systems are a natural aid to issuing the bills and keeping track of uncollected charges. The area municipalities and the hydro commissions all make heavy use of computer-based systems. In some of them, computer facilities or predecessor unit record equipment have cranked out the bills for more than two decades.

The computer systems are evolving constantly. Advanced techniques are now, or soon will be, in use in most of the municipalities and commissions. Mark sensing cards are commonly used to record the reading of water or electricity meters. In some entities, optical scanning methods have been adopted to enter meter readings into computer records. Records often are kept on microfilm or microfiche, for convenience and easy reference. In

the past few years, most of the municipalities and some
of the commissions have launched major revisions of their
billing systems to add on-line inquiry. This lets a member
of the collections staff look up the status of a cus-
tomer account on a display screen and obtain an almost in-
stant answer to questions about the standing of an account.
Some of the entities intend to devise changes to run their
computer systems more efficiently, or to revamp and stream-
line various segments of their systems - such as collection
methods, meter reading, information retrieval or reporting
of statistics. Higher costs for water and electricity may
lead some utilities to bill their customers more often -
possibly monthly instead of six, four or three times a
year.

4.   STATISTICS ON WORK DONE AND COSTS

The table on the next page summarizes the salient
statistics on the volume and costs for revenue billing and
collection. The table shows the revenue from taxes, water
and electricity in 1975 and the estimates, made by the
entities concerned, of the number of bills rendered in that
year. It also gives the number of people employed in the
pertinent departments and the identified costs of handling
these functions.

It must be borne in mind that the departments
are not homogeneous from one entity to another. The job
of receiving payments for water may lie with the water
people in one body and with the tax people in another.
The Scarborough Public Utilities Commission has integra-
ted its electricity and water billing functions; its esti-
mates apportion 59 per cent of total costs to hydro and 41
per cent to water.

Hydro commissions also vary in the extent to
which they treat customer service responsibilities - such
as opening or closing an account when an occupant moves -
as a component of the billing operation.

Since most of the entities have not calculated
the cost of data processing applicable to this function,
this cost is excluded from the data.

For these reasons, the unit cost calculations
appearing in the table should be taken as only broad indi-
cators.

REVENUE BILLING AND COLLECTION

STATISTICAL ESTIMATES

	Revenue 1975 ($000,000)	Bills 1975 (000)	Employees-Dec.31/75		Cost 1975 ($000)			Cost/ bill	% Cost to revenue
			Managerial	Total	Compensation & benefits	Other	Total		
TAXES									
East York	34.8	48	1	6	82	27	109	$2.27	0.31
Etobicoke	133.4	152	5	17	250	25	275	1.81	0.21
North York	195.1	253	4	26	256	16	272	1.08	0.14
Scarborough	112.5	177	8	37	445	74	519	2.93	0.27
Toronto	347.0	333	8	78	1,099	(145)*	954	2.86	0.27
York	40.4	72	1	10	123	19	142	1.97	0.35
	$863.2	1,035	27	174	$2,255	$16	$2,271	$2.19	0.26%
WATER									
East York	2.7	96	1	13	172	20	192	2.00	7.1
Etobicoke	6.9	198	1	19	290	40	330	1.67	4.8
North York	10.9	290	5	28	330	83	413	1.42	3.8
Scarborough P.U.C.	7.4	528	3	37	453	71	524	.99	7.1
Toronto	18.9	300	6	56	759	151	910	3.03	4.8
York	3.6	132	1	12	357	59	416	3.15	11.6
	$50.4	1,544	17	165	$2,361	424	$2,785	$1.80	5.5%
HYDRO									
East York	10.7	180	5	26	353	64	417	2.32	3.9
Etobicoke	39.8	608	2	42	691	86	777	1.28	2.0
North York	64.6	876	6	57	962	229	1,191	1.36	1.8
Scarborough P.U.C.	40.3	589	4	54	652	102	754	1.28	1.9
Toronto	113.8	1,388	7	123	1,816	180	1,996	1.44	1.8
York	11.3	114	5	29	691	55	746	6.54	6.6
	$280.5	3,755	29	331	$5,165	$716	$5,881	$1.57	2.1%

* Represents an allocation of total departmental cost to water and hydro

Not much can be deduced from the calculations
of cost per bill. There are wide variations, but no dis-
cernible pattern except in the hydro operations (where
the two smallest have the highest unit cost).

Somewhat more of an economy of scale pattern shows up
in the percentage of cost to total revenue. For each of taxes,
water and hydro, the percentage is relatively high in the small
municipalities of East York and York. On the other hand, costs
in the largest area municipality - the City - are lowest in
percentage terms only for hydro billings and collection.

5.   THE KEY ISSUES

   a)   Commonality of Systems Across the Entities

   In principle if not in procedural detail, the existing
   systems are very much the same in each of the three
   areas of taxes, water and electricity. All of them
   were designed more or less independently, and naturally
   reflect innumerable differences stemming from local
   customs, personal preference, or simply the fact that
   the systems were designed without reference to each
   other. Substantial effort is currently under way in
   several entities to introduce new techniques to
   strengthen customer service or to bring about greater
   efficiency. A good deal of this work is in the same
   areas, such as the use of on-line display screens for
   prompt look-up of customer accounts.

   Certainly there are many variations from municipality
   to municipality, or commission to commission, in
   governing by-laws, in methods used and in local con-
   ditions. However, and despite these variations,
   we believe there is sufficient commonality of pur-
   pose and process for common basic systems to be
   used. In the context of our discussion in Chapter
   IV of the value of common systems and the sharing
   of computer facilities, we consider it quite possible
   to develop these fundamental systems once, rather
   than separately for each prospective user. Given
   the availability of the basic systems, each partici-
   pating entity could modify or supplement them to fit
   its specific needs.

   Common systems would be suitable for the billing and
   collection functions in each of the three main areas:
   taxes, water and electricity charges. Detailed systems

within each would take into account differences
between, for example, realty and business tax
accounts, and residential and commercial users
of water or hydro services. Bills would be in
common formats, but would carry the name of the
entity involved and other information specific
to the entity. Such systems must be sufficiently
flexible to be adapted to local circumstances.
They should draw upon the best of current practices
in the entities they are to serve.

b)   Computer Equipment

In Chapter IV we proposed an approach under which
a large central computer facility should support
a number of minicomputers or terminals in the in-
dividual entities. Applying this concept to the
revenue and collection functions, the massive "data
crunching" required to issue tax, water and electri-
city bills, record payments and keep associated
accounts would be done by the central computer facility.
Other activities, including maintenance of account
status information that a customer is apt to inquire
about, would be handled on the local equipment and
would be available for reference through display
screens or computer print-outs.

c)   Collection Methods

Every entity that sends out bills for taxes or rates
has had to set up a substantial unit to handle col-
lections and expedite receipts from reluctant payers.
The collection effort is not unlike that in a depart-
ment store which has many thousands of charge accounts.
The municipalities and commissions use similar collec-
tion methods, except that commissions employ collection
agencies to collect overdue accounts. There is also
the power of the tax lien, and ultimately the sale
of the property to recover unpaid taxes.

It has been suggested that a Metropolitan-wide collec-
tion organization might be formed, to unify and
rationalize the collection efforts of municipalities,
commissions, bailiffs and collection agencies.

We find it difficult to believe that the benefits of
specialization would be sufficient to offset the
costs of yet another central service. Certainly the
entities devote a lot of time to making collections.

But in our limited review we saw no evidence of
serious problems or inefficiencies that would
warrant a major organizational change in collec-
tion practices, in the distribution of responsi-
bilities and resources among the entities or the
use of outside collection agencies.

d)   Data Processing for Assessments

The assessment function, originally the responsibility
of the area municipalities, was transferred in 1954 to
the Metropolitan Municipality and in 1970 to the pro-
vincial government. The Ministry of Revenue has had a
huge task to create and manage a province-wide assess-
ment operation, with associated data processing. We
understand that moving the assessment function to the
provincial level was intended to rationalize and make
more equitable the valuation methods, and consequently
the burden of taxation, borne by Ontario citizens.
Several years will elapse, we are told, before the
"market value" basis will have been applied satisfac-
torily to assessments. Many officials expressed
to us their concern about the service provided
to the municipalities by the Government of Ontario
in the processing of assessment data and the pro-
duction of the assessment roll as the base for
municipal tax billings. The complaints we heard
related to slow updating of records, delays in the
distribution of assessment data, and unacceptable
quantities of errors. There also is concern about
the unavailability of certain property-related in-
formation that the municipalities used to get as a
by-product of the assessment data. The Borough of
Scarborough has created a system to remedy such
problems by storing data until it is entered into
the provincial records or to store data not avail-
able from the provincial records. Such buffering is
costly. Under such circumstances, we see no com-
pelling reason why assessment data processing systems
should remain with the province. It may therefore be
desirable, once market value reassessment has been
complete, to return responsibility for data processing
to the area municipalities.

e)   Similarity of Water and Hydro Billing Systems

The Scarborough Public Utilities Commission seems
well satisfied with its combined water/electricity
meter reading and customer billing activities. Reading
two meters on the same visit to a building, and

rendering one combined bill instead of two separate
ones, appears to be an efficient procedure. No
one else in the Metropolitan area has combined water
and electric billings - possibly because no one else
(except the Borough of York) has the two operations
in the same entity.

So long as water billing and electric billing are in
separate entities, any attempt to combine meter
reading or the bills will be difficult and probably
not worthwhile, although the data processing systems
for each still could contain a high degree of
similarity. Even where only one entity is involved, the
upset and cost of moving from separate to combined func-
tions would be significant. Difficulties in re-deployment
of employees undoubtedly would arise.

f)   Further Centralization

We have already proposed that the systems and com-
puter policies applied in the Metropolitan area should
provide for a large central facility, many small com-
puters tied to it, basic common systems and the
flexibility to adapt these systems to individual
local needs. The impact of these changes upon the
organizational form of the billing and collection
functions in the entities would be minimal. The
duties and structure of the departments would not
be affected.

It would be possible - although it was suggested to
us only rarely - to consolidate in one location the
billing of taxes or rates, the receipt of cash and
the collection of delinquent accounts. All or a
portion of these functions could conceivably be han-
dled centrally by a very large clerical and administra-
tive group. Billings would go out from the central
source, and payers would remit to the central source.

Alternatively, those functions could be centralized
in terms of authority and responsibility, without
being physically consolidated. Locally based billing
and collection departments would respond to some
central specialized unit instead of to their local
entity.

Neither of these choices - physical consolidation,
or centralization of authority - seems advisable
to us. Benefits supposedly would stem from a
greater opportunity to apply specialized skills and
from investment of centrally collected cash at the
maximum rate of return. But such potential benefits
are far outweighed, in our opinion, by the disad-
vantages of creating unduly large central groups,
their remoteness from the local scene, the red tape
they would generate and the unacceptable diminution
of local authority. Even if the long-term benefits
were there - which we do not believe - the transitional
problem of jurisdictional rights and the effects upon
employees would be very great.

6.   RECOMMENDATIONS

i)   Common computer-based systems should be designed
for billing and collecting taxes, water charges
and electricity charges. These should be intro-
duced in all applicable entities in the setting
of the systems plan proposed in Chapter IV.

ii) The common billing and collection systems should
be processed on computer facilities structured as
recommended in Chapter IV.

iii) Present arrangements for collecting overdue accounts
should continue.

iv) A comprehensive study should be made of the merits
and disadvantages of restoring to the Metropolitan
or local levels the responsibility for processing
assessment data. Any such change should come after
the market valuation basis has been implemented. It
should assume the existence of the data processing
concepts and common systems approach described in
Chapter IV.

v)   Consideration should be given to combining the res-
ponsibility for water and electricity meter readings
and billings, as and when the organizational align-
ment among local entities permits.

vi) Responsibility for billing and collecting tax, water
and electricity revenues should be left with the
local entities.

VI. PAYROLL ADMINISTRATION

1. THE FUNCTION

The number of people employed by the individual entities ranges from under 100 to over 10,000. At the end of 1975 there were more than 85,000 on the payroll, and in that year, more than 2,000,000 pay cheques were issued.

There are many kinds of employees to be paid: salaried and hourly, union members and non-members, employees and elected officials, permanent and temporary staff. Each person has to be paid accurately and promptly. Their credits and charges under employee benefit plans must be computed, as well as other pay deductions such as income taxes. Often, records of the way they spend their time must be accumulated as part of the method of calculating their pay, or to help management in monitoring the use of human resources. The compensation costs are analyzed so that they can be charged to the correct expenditure accounts in the accounting system. Finally, many statistics are kept, reports prepared and government returns sent off.

Handling these tasks in all the entities occupies about 180 payroll employees at a cost well in excess of $2 million. Beyond this sum, a large but unknown amount is spent on computers to handle the massive amount of work required to keep track of employees, calculate their pay, make deductions and print pay cheques.

2. RESPONSIBILITY

Each entity typically has a central payroll department to handle these tasks. All departments are required to provide requisite information to the payroll department on employee recruitment, termination or changes of status, and authorizations for pay rates and deductions. These departments also supply attendance reports or time breakdowns needed to derive the employee's pay or to determine how the cost should be accounted for. In some entities with relatively few employees, such as the hydro commissions or the library boards, the whole payroll task may be handled by one or two people, sometimes just as one of the many tasks of the accounting department. In larger entities, such as the Police Commission and the T.T.C., a highly structured department with formal procedures is required by the volume of work they do. In the Metropolitan Municipality and the City of Toronto, many of the operating departments are so large that they have administrative staff inside them to gather and verify payroll information before it is passed to the central payroll department.

3. THE PROCESS

Processing pieces of paper and keeping records
are the essence of the work of the payroll staff. People
must be paid on time and in the right amount. Deadline
dates are tight, and the number of calculations can be
huge. These demands are ideal for electronic data pro-
cessing. Most entities made their first acquaintance
with punched card or computer equipment in order to obtain
payroll assistance.

Now, nearly all entities make extensive use of
computer facilities to prepare payrolls, produce cheques,
keep records of earnings and deductions, and figure out
cost charges. Typically, these computer facilities are
in a data processing department in the entity. In a few
cases, arrangements have been made for service from the
computer of another governmental unit: the Metropolitan
Municipality uses the computer of the City of Toronto, the
Public Library Board of North York uses the Borough's, and
the Board of Education of Etobicoke uses the services of
the Ministry of Education. Several entities with rela-
tively few employees depend upon the services offered
publicly by the banks or service bureaus. Two are
satisfied with handwritten methods.

When computer facilities handle the drudgery,
the tasks of the payroll department focus on making sure
that the right information goes into the computer, seeing
that satisfactory data come back out, finding what went
wrong when they do not, mollifying disgruntled employees
when mistakes occur, and keeping voluminous files on pay
matters. Payroll staff members must have a comprehensive
knowledge of personnel practices, union agreements, pay
rates, vacation entitlements, employee benefit plan pro-
visions, hiring and termination requirements, and time re-
porting. They are surrounded by a sea of legal, regulatory
and procedural instructions. A good percentage of these -
union agreements, benefit plans and time accounting - tend
to be unique to the entity. Still, there is a high degree
of similarity in the payroll mechanics among the various
entities. "A payroll is a payroll is a payroll." The jobs
are different, the pay rates are different, the deductions
are different and the cost accounts are different - but the
process is much the same.

Because payroll methods are well defined and most
of the entities have used computer processing for a decade
or longer, one might think that the function has stabilized.

This is not the case. Further improvements, particularly
in capitalizing upon the more advanced capabilities in
computer systems, are in the works. Although some entities
employ the computer to produce only payroll cheques, many
use it to allocate labour costs to expenditure accounts.
Some of the entities that do not have such an integrated
system now are planning to install one soon. Some are
planning major systems expansions. For example, both the
Metropolitan Municipality and the City of Toronto intend
to introduce much more comprehensive and complex reporting
of employee time as part of a plan to strengthen managerial
control over expenditures and ensure the best use of human
resources.

Several entities are overhauling their payroll
systems in an effort to run them more efficiently on the
computer, to add refinements or to get better management
information. The Etobicoke Board of Education has
requested proposals from suppliers for a minicomputer.
A few of the larger entities are exploring the advantages
and attendant costs (not inconsequential) of getting dis-
play screens that are linked directly to the computer, so
that employee pay information can be looked up instantly.

There are few new developments in the payroll
function outside the computer field. The Metropolitan
Municipality, though, is in the process of consolidating
pay cheque distribution duties into its payroll depart-
ment, with a corresponding reduction in the duties of
administrative clerks in individual departments. It
also intends to place full responsibility for the
accuracy of payroll inputs with the departments con-
cerned, and correspondingly to discontinue the "pre-
audit" role now vested in the Metropolitan Auditor.

4. STATISTICS ON WORK DONE AND COSTS

The table on the next page presents key figures
secured during the study on the number of employees paid and
pay cheques issued in 1975, and the number of payroll department
employees and associated costs needed to pay them. It cal-
culates a cost of payroll administration per employee and
per pay cheque.

The cost which appears in the table is almost en-
tirely for compensation and benefits of employees working
in the payroll functions. Identified costs for supplies or
other items are small.

PAYROLL ADMINISTRATION

STATISTICAL ESTIMATES

	Employees Paid	Pay cheques Issued (000)	Employees in Function Dec. 31, 1975	Cost ($000)	1975 Cost Per Employee Paid	Cost Per Cheque
Municipality of Metropolitan Toronto	6,809	197	15	$256	$37.60	$1.30
Board of Commissioners of Police	7,000	200	22	170	24.29	0.85
Toronto Transit Commission	8,093	235	25	331	40.90	1.41
Area Municipalities – East York	471	17	2	35	74.31	2.08
– Etobicoke	2,445	82	3	64	26.18	0.78
– North York	3,272	130	7	93	28.42	0.72
– Scarborough	1,846	75	5	53	28.71	0.70
– City of Toronto	10,950	250	13	193	17.63	0.77
– York	950	45	4	56	58.95	1.24
The Parking Authority of Toronto	190	8	1	13	68.42	1.62
Library Board – Metropolitan	370	9	2	12	32.43	1.35
– East York	111	3	1	5	45.05	1.73
– Etobicoke	355	9	Part 1	7	19.72	0.75
– North York	550	14	2	23	41.82	1.61
– Scarborough	370	10	1	15	40.54	1.56
– Toronto	615	15	1	14	22.76	0.95
– York	106	3	Part 1	Minor	–	–
Hydro Commission – East York	103	5	2	14	135.92	2.99
– Etobicoke	245	6	1	20	81.63	3.14
– North York	400	21	2	36	90.00	1.73
– Scarborough P.U.C.	434	12	3	57	131.34	4.96
– Toronto	1,077	31	7	169	156.92	5.45
Metropolitan Toronto School Board	440	7	1	16	36.36	2.37
Board of Education – East York	1,000	20	2	29	29.00	1.45
– Etobicoke	5,085	68	8	86	16.91	1.26
– North York	7,400	193	14	156	21.08	.81
– Scarborough	6,255	89	16	173	27.66	1.95
– Toronto	8,734	177	8	136	15.57	0.77
– York	3,042	45	5	77	25.31	1.70
Metropolitan Separate School Board	6,568	154	9	96	14.62	0.62
	85,286	2,130	183	$2,405	$28.20	$1.13

The cost of computer processing is a significant element in the total cost of payroll administration. A few of the entities figure out how much of their total computer costs applies to payroll administration. Where an outside service, such as the bank, is used, the cost is easily identified. But most of the entities do not know what portion of their computer cost applies to payrolls. For the sake of consistency we have therefore omitted from the table all identifiable costs for computer use - while recognizing that the total costs consequently are quite significantly understated.

The cost per employee paid is heavily influenced by the number of casual employees. The only "common denominator" in the table - the cost per pay cheque - shows remarkably large differences among the entities. It must always be remembered that the figures are intended to give only "order of magnitude" estimates. Unquestionably there are many factors other than economies of scale that could influence the figures - the frequency of payment, the proportion of casual workers (quite large in the municipalities), the complexities of pay calculations, the extent of computerization, the mix of tasks assigned to the payroll department and, finally, the possibility of inconsistencies in the make-up of the figures supplied to us. Differences in these factors can distort comparisons, sometimes materially.

Examination of the cost per pay cheque suggests that it tends to be lowest in some of the bigger entities, and highest (apart from the hydro commissions) in some of the smaller ones. The high level of hydro commissions' costs seems to place them in a class by themselves. The table could indeed lead to the conclusion that there are some economies of scale to be achieved through consolidation of payroll units into larger ones. Of this, more later.

5.   THE KEY ISSUES

     a)   Commonality of Systems Across the Entities

     The processes of producing a payroll, creating the
     associated documentation and assigning the costs
     in the accounting system are essentially the same
     from one entity to another. At the same time,

among the entities the employee jobs and classifi-
cations differ, their pay rates are not the same,
the benefit plans vary in their provisions and the
kind of information provided to the managers de-
pends upon what they think they need.

Nevertheless, their fundamental similarity as
systems can handle such differences in each entity's
payroll administration. Provided adequate arrange-
ments are made for managers in each entity to
receive the cost control information they want in
the form and detail that they want it, we do not
feel that there should continue to be thirty
distinct payroll systems.

It is quite practical to design common computer-
based payroll systems that are very flexible and
can be used by most of the entities. Variations
in the pay classifications, wage rates and benefit
plans of individual entities can be accommodated
in common systems. At the same time, it is quite
within today's state of the art to arrange for the
output of the payroll system to be reported in
differing formats and degrees of detail to suit the
needs of various managers in the individual entities.
Why should at least thirty systems analysts design
thirty payroll systems to do what amounts to the
same thing?

If the payroll systems now in place met the needs
of today and tomorrow, we would be loath to suggest
investing money in creating new systems that are
common in their essentials while flexible in the
way the information is presented to managers. But
the payroll systems are in a state of flux in many
of the entities, and those of some size expect to
make changes to get greater efficiency or more
information. In those circumstances it makes sense
to examine in depth the merits of designing one
fundamental set of systems for the use of all.
There is substantial inefficiency, unnecessary work and

significant avoidable cost in "reinventing the wheel" to suit individual preferences.

b) Computer Equipment

In Chapter IV we proposed major changes in the approach to the acquisition and use of computer facilities. The processing of computer-based payrolls and associated systems should be performed in accordance with that approach.

c) Integrated Systems of Personnel Information

Some payroll systems also assign compensation costs to expenditure accounts. A few entities have gone a step further by arranging to capture and issue a variety of personnel listings and statistics as a by-product of preparing payrolls. None as yet has developed a comprehensive system of personnel information, kept either by hand or by computer. However, the Metropolitan Municipality is working on such a system and other entities are thinking about following suit.

Useful information that may form part of a comprehensive personnel information system includes records of education and employment history; inventories of skills; data to help in evaluating employee performance and potential; and information needed to plan for the development and deployment of staff. Simple techniques ensure that such information remains confidential to authorized management of each employee's entity.

Within the next decade, it can reasonably be expected that such computerized personnel information systems will become almost as common as payroll systems are today. "Data bases" of employee information will be maintained on computers to supply employee information needed for making up payrolls, costing, collective bargaining, economic studies and human resource management planning and control. These related system needs will be closely tied to each other. Each will depend in part on a common storehouse of employee data, and in part upon information unique to it.

Again, it is sensible to design the basic computer-based personnel information systems once, not as many times as there are entities which want them. For

these various facets of human resource management –
personnel statistics, skill inventories and staff
planning – it is desirable, practical and economic
to create basic systems that can serve the needs of all
while maintaining the confidentiality of each entity's
information. These systems should be designed in modu-
lar or building-block fashion, so that segments not
needed by any one entity simply would not be used by it.
And of course, under the approach to systems and computers
that we are proposing, each entity would retain the flexi-
bility to alter or add features of the system, to satisfy
its special needs.

d)   Centralization

On the surface, the costs of payroll administration
seem to support arguments in favour of further
centralization. In many cases the smaller entities
have high payroll administration costs, and the
reverse often seems true for the larger ones.

We believe that any potential economies of scale
inherent in further centralization of the payroll
function cannot be obtained solely by centralization
of authority or responsibility. Altering the lines
of authority, so that the payroll departments repor-
ted to some central jurisdiction, would have little
impact, of itself, upon cost levels. Rather, we
believe the effectiveness and costs of payroll ad-
ministration are much more directly affected by the
extent of computerization and by the number of people
in payroll administration. The former of these we have
dealt with above. The latter – the impact of size – is
affected by many considerations other than cost. It is
probably true that, up to a certain fairly large size,
bigger payroll units are more efficient. Because many
of the entities do not have large numbers of employees,
they have small payroll administration departments.
These find it difficult to secure the benefits of
specialization, and so may have higher costs.

However, it must be remembered that these departments
act as the link between payroll records and the indi-
vidual employees and managers in the entity. It is
not logical to combine these payroll departments in a central
location, in order to gain purported economies of scale.

The difficulties of operating from a remote
locale would wipe out any gains. The need for
continuous contact between the payroll staff
and other people in the entity demands - vir-
tually dictates - that the payroll people be
located within it. The only exceptions to
this might occur in entities which have very
few employees and which have a close organi-
zational relationship to another larger entity.
In such cases, convenience might lead the smaller
entity to arrange for the larger one to handle
payroll functions on its behalf. A library board,
for example, might use the services of the borough.
Such arrangements would be up to the two of them
to make.

6. RECOMMENDATIONS

i) Common computer-based systems should be designed for
payrolls and for charging of payroll costs to accounts.
These new systems should be adopted in due course by
all the entities of any real size.

ii) The computer-based common payroll and cost-charging
systems should be processed on computer facilities
structured as recommended in Chapter IV.

iii) A common computer-based information system should be
developed for personnel statistics and human resource
planning, development and control. The new system
should be linked to existing payroll administration
systems, and available to any entity that wishes to
use it. It should also limit access to confidential
information to those who are authorized to use it.

iv) Responsibility for the payroll administration
function should remain with the entity it
serves. With minor exceptions, there is no
benefit in centralizing or consolidating the
work at any wider organizational level.

VII. PENSION ADMINISTRATION

1. THE FUNCTION

Pension administration embraces three main dimensions: collecting employee and employer contributions, managing the resulting funds and paying benefits out. The last two of these usually are handled together.

The first area is mainly a matter of making the required deductions from employees' pay cheques, and remitting employer and employee contributions to the organization responsible for the pension fund. The second and third are more complicated. They involve receiving and depositing the remittances, investing the pension fund monies in suitable securities or other assets, reviewing the provisions of the plan, evaluating its actuarial standing and, finally, calculating and paying pensions upon retirement.

2. RESPONSIBILITY

For all but six of the entities in the Metropolitan area, pension administration is a minor activity, important but not time-consuming. Apart from the six (described below) that have pension fund assets to manage, the entities have only to make the proper deductions from the employees' pay and forward correct amounts to those who manage the pension funds.

Provincial law stipulates that pension fund assets for municipal employees hired from July 1968 onward must be administered by the Ontario Municipal Employees Retirement System (OMERS). The contributions are passed to OMERS, which invests them, pays the pensions and does all the record-keeping. Teaching personnel are covered by the Teachers' Superannuation Plan, which is also administered provincially.

The Toronto Transit Commission has its own Pension Fund Society, which collects employees' payments and administers the Fund. The Transit Commission considers that it does not fall within the orbit of the legislation for the mandatory use of OMERS.

Five other entities - the Municipality of Metropolitan Toronto, City of Toronto, the Board of Commissioners of Police, the Borough of Etobicoke and the Borough of York - have pension fund assets and pension payments which they manage on behalf of employees who pre-date the initiation of the 1968 OMERS legislation.

3.   THE PROCESS

         All the entities except those who have pension
fund assets to manage have quite a simple time of it.   In
preparing their regular payrolls, they arrange to make
the correct deduction from each employee's pay.   Contri-
butions are then sent, with the necessary detail, to
whoever runs the pension fund.   This means that for most
employees the contributions are sent to OMERS.   For some,
who were recruited before July 1968 and whose employee
group did not opt into the OMERS plan, contributions are
sent separately to the plan that covers them.   Those plans
are "closed", which means that there are no new people
coming into the plan, although of course its present mem-
bers keep on contributing, its assets keep on earning
money and its pensioners go on getting paid.

         The Municipality of Metropolitan Toronto administers
two of the "closed" plans.   The Metropolitan Toronto Pension
Fund covers that Municipality's employees who joined between
1956 and 1968, as well as some employees of the boroughs or
local boards who came into the plan during the same period.

         The Metropolitan Toronto Police Benefit Fund
covers employees of the Board of Commissioners of Police
who were in the Fund prior to July 1968.

         Each of these two funds has assets of about $90
million.   Each is administered by a board of trustees that
includes employee representatives, members of the Metro-
politan Council and others.

         The Metropolitan Toronto Pension Fund is invested
entirely in bonds, and the Police Benefit Fund is invested
90% in bonds and 10% in equity stocks.   The boards of
trustees determine the investment strategies of each fund.
Purchases and sales of bonds in the two funds are admini-
stered by the Funded Debt Division of the Treasury Department.
A portion of the Police Benefit Fund has been placed with
three outside investment firms, which manage the stock port-
folio.   Responsibility for general administration of pension
matters for both funds lies with the Pension Division in
the Treasury Department of the Metropolitan Municipality.

         The City of Toronto administers three closed funds
which pre-date OMERS.   These are handled in much the same
manner as those of the Metropolitan Municipality.   The

Civic Fund for municipal employees has investment assets
of $66 million, the Fire Employees' Fund $42 million, and
the Library Employees' Fund $3.5 million, for a total of
$112 million. Each of the funds has a board of trustees,
comprising elected members, employee representatives and
City officials. The assets of the funds are invested
principally in governmental and corporate bonds, with some
equity securities and one mortgage. Administration is
handled by the Pension Section of the Treasury Division
of the Finance Department. Investment transactions are
made through the Investment and Funded Debt Section of
the City's Treasury Division.

The Toronto Transit Commission has assets of
$106 million in its Pension Fund Society, administered
by its own Board of Directors. Administrative support
to the Society is provided by the Personnel and Labour
Relations Department of the T.T.C. Two private sector
firms serve as investment managers for the Society, and a
third firm acts as mortgage manager.

Only two of the boroughs continue to have closed
pension funds relating to previously amalgamated entities.
The Borough of Etobicoke has three such funds totalling
about $19 million in assets which cover long-standing and
retired employees of Etobicoke, New Toronto and Mimico. The
Etobicoke Fund, by far the largest of the three, is handled
through a contract with Confederation Life Association. The
Borough of York also has a pension fund with assets of $13
million. Administration of these funds in Etobicoke and York
is not a time-consuming task, but it is a specialized activity
that is quite unrelated to other municipal responsibilities.

4.   STATISTICS ON WORK DONE AND COSTS

The table on the following page summarizes the
available data on pension funds managed by Metropolitan
area entities: number of contributors, pensioners,
pension fund investments, and the administrative staff
and required costs to administer pension fund assets and
make pension payments.

Administrative costs in those entities which do
not administer pension funds are neither large nor easily
identifiable. They are mainly just one more element of
the cost of calculating, making and remitting employee
benefit plan deductions and contributions.

PENSION ADMINISTRATION

STATISTICAL ESTIMATES

	December 31, 1975				Administrative cost 1975 ($000)	
	Contri-butors	Pen-sioners	Employees in Function	Invest-ments ($000,000)	Internal	Outside Services
Municipality of Metropolitan Toronto	4,246	1,063		$90.5		$45
Board of Commissioners of Police	2,365	699	11	88.8	$215	34
Toronto Transit Commission	8,100	1,200	6	106.6	45	267
Area Municipalities – Etobicoke				17.0		
– New Toronto	780	150	2	1.4	8	19
– Mimico				0.9		
– Toronto – Civic	2,546	1,509		66.4		
– Fire	1,081	460	8	42.1	253	22
– Library	100	91		3.6		
– York	402	118	1	12.8	Not identified	

Total investment assets under administration come to over $400 million. The true cost of managing these funds is not available. Some of the work is done by municipal employees, in which case the cost sometimes has been identified and sometimes has not. Some is done by private sector investment managers, insurance companies or trust companies under a variety of financial arrangements, with the cost of administration often netted against the income attributable to the pension fund. To this extent the costs appearing in the table are incomplete.

5.   THE KEY ISSUES

a)   Pension Plan Consolidation

Some of the entities that now administer closed pension funds are exploring the possibility of integrating these funds into the OMERS plans. Many extremely complex factors are involved, including fairness to employees hired both before and after 1968, negotiations with the unions, and the relationship of closed pension fund assets to the actuarial liabilities of the funds. The Borough of Etobicoke and the Municipality of Metropolitan Toronto are now exploring the matter.

b)   Pension Fund Investment Management

Responsibility for managing the investments of closed pension funds lies with their boards of trustees, assisted by municipal financial officers and, in some instances, by outside investment managers who invest designated blocks of money.

OMERS now possesses the authority to invest a portion of its pension fund assets in bonds, shares, mortgages and real estate. It has established an Investment Policy Committee to guide it in establishing and monitoring its policies and strategies for investment management. Three people from the private sector, all of them highly experienced in financial or investment matters, are members of this Committee, and bring to it a breadth of knowledge that is not readily securable in any other way.

Where a closed fund appears unlikely to be
integrated into the OMERS pension plans, con-
sideration should be given to asking OMERS to
manage the fund investments on behalf of the
entity whose fund it is. The expertise present
on OMERS' Investment Policy Committee thus could
be brought to bear upon those funds. Alterna-
tively, if a board of trustees decided to keep
full responsibility within the entity concerned,
it should consider appointing its own investment
policy committee as another way to benefit from
outside expertise.

c)   Pension Administration

The administration of pensions - making pension cal-
culations, paying the pensioners, keeping statistics
and maintaining records - occupies only small amounts
of time in the Borough of Etobicoke and the Borough
of York. The Pension Division of the Treasury Depart-
ment in the Metropolitan Municipality has a staff of
11. The Pension Section in the Finance Department
of the City of Toronto has 8 people. The Toronto
Transit Commission Pension Fund Society has 8,100
contributors and investment assets of over $100
million. It has a staff of 6 people to administer
pension matters.

We are told that these specialized pension groups
are functioning satisfactorily. If a decision
were taken to place the management of their funds'
investment assets with OMERS, it might be advisable
at the same time to ask OMERS to undertake the ad-
ministration of pension calculations, payments,
valuations and records.

6.   RECOMMENDATIONS

i)   Exploration should continue of arrangements to
      integrate the "closed" pension funds with OMERS
      plans.

ii)   The closed pension funds should contract the manage-
      ment of their investments to OMERS, or set up their
      own investment policy committees manned in part by
      private sector investment experts.

iii)   If OMERS is asked to manage the fund investments,
       consideration should also be given to having the
       closed pension funds contract to OMERS the
       administration of their pension activities.

VIII. AUDITING

1. THE FUNCTION

In the context of our study, the audit function embraces the examination of documents and operations to give an opinion upon the fairness of presentation in financial statements, to ensure that transactions are in accordance with the law, to preclude or detect irregularities, or to evaluate the efficiency or effectiveness of operations. The last of these activities is often referred to as "operational auditing".

The great majority of the audit work performed in or for the Metropolitan area entities consists of verifying the financial statements and checking the accuracy and legality of financial transactions. A significant proportion of the audit work performed in the Municipality of Metropolitan Toronto and the City of Toronto is known as "pre-auditing", that is, the verification and certification of intended disbursements to suppliers and employees before payments are made.

As we are affiliated with Price Waterhouse & Co., Chartered Accountants, we have an interest in the auditing policy of the Metropolitan entities. We do not believe this interest biases our views in this section of our report.

2. RESPONSIBILITY

Auditors are retained by the Council or the governing board of an entity in accordance with the requirements of The Municipal Act or The Municipality of Metropolitan Toronto Act. These acts require that the auditor of the municipality also audit all local boards of the municipality except for the school boards.

Independent firms of public accountants conduct audits leading to the attestation of the annual financial statements in all the entities except the Metropolitan Municipality, the City of Toronto and their associated entities. In the Metropolitan Municipality, the Metropolitan Auditor attests to the fairness of the annual financial statements and carries out a variety of financial auditing work. He is accountable administratively to the Chief Administrative Officer, but has the right of access to Metropolitan Council on any matter he may choose to place before it. Similarly, the City of Toronto has a City Auditor who is accountable to the City's Executive Committee and Council.

Three entities, namely the Board of Commissioners of Police, the Toronto Transit Commission and the Borough of Scarborough, have internal audit groups that perform many audit duties but do not give an opinion on the entity's financial statements.

3.   THE PROCESS

The scope of the work of the auditors of municipal organizations is prescribed by the provincial Ministry of Treasury, Economics and Intergovernmental Affairs.   Through its guidebook for municipal auditors, and its right to licence auditors, that Ministry is closely involved in monitoring annual audits.

Without exception, those entities that chose to comment expressed satisfaction with the performance of the public accounting firms retained for the 1975 audit.   One hydro commission suggested that it might prefer to have an auditor who did not also audit the borough.

The Metropolitan Auditor undertakes the statutory audit of the Metropolitan Municipality and all its boards, commissions and agencies.   In this role, he does a limited examination of the financial statements of the Toronto Transit Commission and gives an opinion on them, without duplicating the work of the Commission's external auditors. He does not work for the area municipalities or other entities outside the orbit of the Metropolitan Municipality.

The Metropolitan Auditor's department performs pre-payment audits of expenditures of the Metropolitan Municipality, the Police Commission and the Licensing Commission.   Every account must be acceptable to and authorized by the audit department before it is paid. Arrangements are in progress to phase out this arrangement.   Responsibility for ensuring the accuracy and legality of payments will subsequently lie with the departments requesting them and the department paying them - which is the common pattern in government as well as in industry.   Once the transfer of this function has been completed, the audit department will verify the controls over these payments as part of its regular audit tests.

The Metropolitan Municipality audit department also undertakes the specific task of verifying statements of outstanding debenture debt.

The great bulk of the work of the Metropolitan Municipality audit department is financial: the verification of financial statements, pre-audit duties and special investigations of a financial nature. The audit department has a staff of 42, including five chartered accountants and four certified general accountants.

The Check & Verification Unit of the Police Commission does extensive and detailed checking of operating records such as duty books, court cards, the sick pay bank and other personnel records and payroll data. It has a staff of 12.

The Internal Audit Department of the Toronto Transit Commission, with a staff of 15, undertakes detailed audit tasks for the T.T.C. It carries out financial audits and fare revenue audits, does some accounting control work such as reconciliation of bank accounts, and performs some operational audits of the T.T.C. departments to identify systems problems and opportunities for greater efficiency. It is planning some reduction in the proportion of its accounting work, and a corresponding increase in operational auditing.

The role of the City Auditor in the City of Toronto is very similar to that of his counterpart in the Metropolitan Municipality. Detailed financial audits, and the rendering of an opinion on financial statements, are performed for the City itself, the Library Board and the Parking Authority, and for other units as required. Detailed audit work is done for the Toronto Hydro-Electric Commission, although the Commission's financial statements are audited by a public accounting firm.

Ten years ago the City Auditor's pre-payment audit duties were transferred to the Finance Department. They were restored to the City Auditor in January 1976.

The City Auditor's staff, including those engaged in pre-auditing, numbers 35 people. Of these, 3 are chartered accountants and several others are certified general accountants or registered industrial accountants. The work is essentially financial, and is not directed to identifying opportunities for improvements in operational or systems efficiency.

The only other audit group in the Metropolitan area entities is the Financial Control Division in the Treasury Department of the Borough of Scarborough. Until 1975 the Division's work consisted only of financial auditing. In 1976 its work was redirected to de-emphasize financial audits and to concentrate upon operational audits aimed at recommending improvements and cost savings. The Division's work is to include reviewing the extent of adherence to policies and procedures, identifying inefficient practices and evaluating the effectiveness of information systems, in addition to testing the integrity of financial records.

Only one entity, the Metropolitan Separate School Board, informed us that it was considering the establishment of an internal audit group.

Both the Metropolitan Municipality and the City of Toronto have other staff units whose functions bear some similarity to operational auditing. The Budget Division in the Treasury Department of the Metropolitan Municipality undertakes, upon request, specific studies of individual areas or departmental activities to identify improvement opportunities. These may be initiated in response to an emerging need, or may be performed in the context of the annual budget process.

The City of Toronto's Management Services Department has a management consulting group whose staff are available, when requested, to conduct internal consulting assignments in many areas. However neither of these units actually does audit work.

4.   STATISTICS ON WORK DONE AND COSTS

The table on the next page shows the audit fees paid in 1975 to external auditors, and the number of employees, compensation and other costs of the audit groups inside the entities. The internal costs shown are almost entirely for compensation and employee benefits.

The extent of the detailed auditing performed in the Metropolitan Municipality and the City is demonstrated by comparing the substantial cost of the Metropolitan Auditor, the City Auditor and the internal staffs in the Police Commission and the T.T.C., to the audit fees of the external accounting firms, who are asked to perform only the work required to render their opinions on the financial statements.

AUDITING
STATISTICAL ESTIMATES

	Employees Dec. 31, 1975	Cost 1975 ($000)	
		Internal	External Audit Fee
Municipality of Metropolitan Toronto	42	$673(1)	–
Board of Commissioners of Police	12	117	–
Toronto Transit Commission	15	219	$57
Area Municipalities – East York			21
– Etobicoke			42
– North York			33
– Scarborough	6	83	27
– Toronto	35	484(1)	–
– York			30
The Parking Authority of Toronto	–	14(1)	–
Library Board – Metropolitan	–	4(1)	–
– East York			1
– Etobicoke			3
– North York			5
– Scarborough			–
– Toronto	–	7(1)	–
– York			1
Hydro Commission – East York			5
– Etobicoke			10
– North York			9
– Scarborough P.U.C.			14
– Toronto	–	30(1)	32
Metropolitan Toronto School Board			17
Board of Education – East York			13
– Etobicoke			20
– North York			25
– Scarborough			19
– Toronto			39
– York			10
Metropolitan Separate School Board			15
	110	$1,631	$448

(1) Audit work done by Metropolitan Auditor or City Auditor.

5.   KEY ISSUES

    a)   Use of Public Accounting Firms

    We heard no criticism of the present practice of
    having the audits of the entities (except the
    Metropolitan Municipality and the City) performed
    by public accounting firms. No one suggested that
    audits of financial statements instead should be
    conducted by audit groups employed within the entities.
    Since the existing arrangements work well, we see no
    reason to propose any change.

    b)   Independence in the Financial Audit

    In its brief to the Royal Commission on Metropolitan
    Toronto, the Board of Trade of Metropolitan Toronto
    expressed the view that a fully independent audit
    function is necessary.

    The Bureau of Municipal Research released in June 1976
    its comprehensive study of the role of the municipal
    auditor in Ontario. This study raised the question
    of whether an audit department on the payroll of a
    municipality can be truly independent of its employer.
    The study notes that independence is vital to the
    effectiveness of auditing.

    We are informed that all municipal entities in Ontario,
    excepting only the Metropolitan Municipality and the
    City, are audited by independent public accounting
    firms or practitioners.

    We believe that there is considerable merit in re-
    examining the whole matter of audit independence for
    the Metropolitan Municipality and the City, including
    the advantages of retaining firms of public accountants
    to perform the annual audits. We propose this re-
    examination in the light of the foregoing comments,
    and in relation to other issues that are raised in
    this chapter.

    c)   Operational Auditing

    This type of auditing is not concerned with expressing
    an opinion on the fairness of financial statements.
    Instead, it reviews adherence to laid-down policies
    and practices, verifies the efficiency of systems and,

sometimes, evaluates the effectiveness of operations
with a view to ensuring that good value has been
received for money spent.

Not much auditing of that type is done in the entities:
a bit in the Borough of Scarborough, some in the
Toronto Transit Commission. This is not to say that
studies in search of improvements are not made - indeed
they are, but not usually by the auditors. The
audit staffs are concerned with financial details.
They do very few planned, systematic, objective ap-
praisals of how well things are done and how they
might be improved.

The Independent Committee for the Review of the
Office of the Auditor General of Canada submitted its
report in March 1975. The Committee explored at
length the merits of having the Auditor General's
mandate embrace the operational type of auditing, in-
cluding consideration of whether value was received
for money spent. This concept has several dimensions:
was money spent economically, was it spent efficiently
and was the program on which it was spent effective
in meeting its objectives? The Committee concluded
that the Auditor General must take due account of
economy and efficiency, and that his principal task
is to determine whether value has been received for
the money spent. The Government of Canada is cur-
rently considering the Committee's report.

Extension of the role of internal audit staffs to
include an impartial review of efficiency and effec-
tiveness of operations and programs is becoming common
practice in corporations and in the public sector.
A major part of the work of internal auditors in com-
panies is typically directed to this kind of audit.
Many governments, including the Province of Ontario
and the federal government in the United States, have
audit groups which do a great deal of operational
auditing. They are considered to render a construc-
tive and valuable service, leading to economies and
better public service. The auditor can see whether
established policies and rules have been followed,
what the problems and weak points are, how good the
performance is compared to norms, and what improve-
ments might be made.

Given the lack of audit work directed to evaluating
operations in the Metropolitan area bodies, we believe
there is much value to be gained from re-orienting
existing audit groups or establishing new ones
to concentrate on operational auditing.

Earlier in this chapter we referred to concerns about
the adequacy of the independence of the Auditors
in the Metropolitan Municipality and the City of
Toronto. This concern applies essentially to the
Auditors' role in providing an opinion on their
financial statements. Independence from the entity
being audited is of lesser importance in the kind
of auditing that is directed to reviewing operations
and finding opportunities for improvement. The audi-
tor must still be independent of the department,
function or unit audited. But his aim is to serve
as a useful tool for the executive management of the
entity in carrying out its legislated mandate. Audit
groups with these responsibilities could quite pro-
perly and effectively respond to a senior general
officer of the entity, perhaps with the audit reports
going to a committee of the Council or governing
board.

In 1975 the existing audit departments cost the
Metropolitan Municipality and the City $673,000 and
$484,000 respectively. The best value to be obtained
from the resources represented by these substantial
sums might well come from re-deploying a good portion
of the money into operational auditing. If the
re-examination proposed in item (b) led to the con-
clusion that the attestation of these two entities'
financial statements should be performed by firms
of public accountants, then the work of the two audit
departments could be reshaped to focus upon operational
auditing. The external auditor would do only the work
required to give an opinion on the financial statements.
Beyond that, detailed financial examinations would
continue to be performed by the departments.

We do not underestimate the magnitude of such a change.
Because the audit objectives are different, the two
audit departments would need to acquire knowledge and
perspectives they do not have now. Training would be
needed. New people might have to be recruited. The
metamorphosis of the departments would extend over several

years, and would require careful planning. We
are convinced that the end result would be an
auditing function that makes an even larger con-
tribution to the public service than it does now.

It makes sense, too, for the other entities of
some size in the Metropolitan area to create audit
units with similar operational review and improve-
ment objectives. The units need not be large -
one or two people sometimes would be enough.
Through their examinations, they can identify
ways to do things better. They can pay their way
many times over.

The larger entities should investigate the benefits
and costs of establishing an operational auditing
unit, where one does not exist. In the Metropolitan
Municipality and the City of Toronto, this inquiry
should be made concurrently with considering the
matter of independence in the annual audit of the
financial statements.

d)   Detailed Financial Auditing

The Metropolitan Auditor's department does a great
deal of detailed work in the Metropolitan Corpora-
tion and its boards and commissions, including the
Toronto Transit Commission. Lengthy audit reports
stem from some of this work. Similarly, the
City Auditor performs a great deal of detailed
work in the City, its boards and commissions and
in the Toronto Hydro Commission. In addition, as of
1976 the City Auditor became responsible once
again for pre-audit of disbursements - a role which
in the Metropolitan Corporation the Auditor is in
the process of giving up.

There has not been the opportunity in our brief study
to review in any depth the work done by the two audit
departments. Nevertheless, we believe that the time
is opportune for a thorough re-appraisal of the
purpose, scope, quantity and timing of detailed audits
and audit reports. We do not believe it is desirable
to have an audit group inserted into the day-to-day
accounting process by doing pre-auditing of payments
to be issued. Time saved by discontinuing practices
that may have outlived their usefulness, or by
arranging for accounting work to be handled by another
department, can be redirected to more productive ends.

e)   Centralization: A Super-Auditor

It would be possible to combine the auditing func-
tions for all the entities into a single Metropolitan
audit agency which would do both financial and opera-
tional audits for all of them. It could attest to
all the annual financial statements. It could evaluate
the effectiveness and efficiency of individual units
or activities, bringing to each entity the experience
it had gained from its work in the others. The agency
could be a creature of the Metropolitan area entities,
or possibly a distinct audit group at the provincial
level.

We see no merit in having the financial audits con-
ducted by such an agency. We doubt that the cost
of auditing would be lower, and the entities would
be deprived of the access they now have to the varied
resources of the public accountancy profession as
represented in the present external audit arrangements.

It is hard to imagine that a central audit group
would be well received in the area of operational
auditing. The individual entities, each understandably
concerned about its autonomy and control, are unlikely
to look with favour upon audits of their operations
made by an agency accountable to some other organi-
zation.

We do not propose, therefore, the establishment of a
Metropolitan-wide authority to conduct financial or
operational audits.

6.   RECOMMENDATIONS

i)   The annual audit of financial statements should
      continue to be conducted by public accounting firms, for
      those entities that do so now.

ii)   The issue of audit independence should be re-examined for
      the Metropolitan Municipality and the City of Toronto, in
      conjunction with recommendations (iii) and (iv).

iii) The larger entities should investigate the benefits
      and costs of establishing an internal operational audi-
      ting unit.

iv)   A comprehensive evaluation should be made of the
      detailed audit functions and audit programs of the
      Metropolitan Auditor and the City Auditor.

IX.   PURCHASING AND STORES

1.   THE FUNCTION

Purchasing embraces the buying of supplies, capital goods and contracted services, and the process of requesting quotations and negotiating contract terms. "Stores" comprise stocks of frequently used or hard-to-get items that operating departments may need on short notice. The purchasing unit often manages the stores activity, inventory control and the distribution of supplies. However, not all stores or inventory activities are the responsibility of the purchasing department, since sometimes the user departments have their own storage facilities.

The purchasing departments of the entities order a wide variety of goods and services: materials, vehicles, stationery, supplies, produce, construction contracts, computers, mechanical equipment and building products.

Taken together, the entities spent $200 million in 1975. It took 536 people, at a cost of nearly $8 million, to do the buying and to keep the stores.

2.   RESPONSIBILITY

Almost every entity has a purchasing organization. Notable exceptions are the Municipality of Metropolitan Toronto, the Board of Commissioners of Police and The Parking Authority of Toronto, all of whom make extensive use of the purchasing skills of the City of Toronto.

The City, through its Commissioner of Purchasing and Supply, provides purchasing services to the Metropolitan departments. This organizational arrangement started at the time the Metropolitan Corporation was formed. Because it worked well, it has continued to this day. The Metropolitan Municipality's purchases constitute about 60 per cent of the total value of purchases made by the City's Purchasing and Supply Department.

Only in the City of Toronto is there a Commissioner of Purchasing and Supply, who responds directly to the Executive Committee of Council. The fact that the Department is not accountable to the Metropolitan Council does

not inhibit its desire or capability to render attentive
service to the Metropolitan Municipality's operating
departments.

The City's large (77 employee) Purchasing and
Supply Department consists of four groups under a single
Commissioner. The Purchasing Division does the procure-
ment, tendering and bidding. The Material Supply Division
is custodian of the warehouses and performs materials con-
trol and planning services. The Equipment Division operates
a mobile equipment rental service. The Administration
Division coordinates all internal administrative functions
for the Department.

The Department has been able to develop a high
degree of skill, specialization, training and experience.
There is a Contracts Branch skilled in the bidding and con-
tracting process. A Standards and Specification Branch
helps to ensure that quotations are on a common basis of
quality and that materials are inspected. The Department
is in many ways comparable to a centralized and advanced
purchasing department in a large company.

In the five boroughs, the purchasing people report
through the treasurer. East York, with a part-time and 3 full-
time employees and annual purchases worth a little over $1 million,
has its Treasurer act as purchasing agent. Purchasing in Etobicoke
at $10 million a year with 22 employees, is under a Director
of Purchasing and Computer Systems. North York buys $6
million annually in goods and services, and has 14 employees
under a Director of Purchasing and Supply. Scarborough's
$7 million of purchases per annum, through 21 employees, are
the responsibility of a Director of Purchasing, Printing
and Stores. The Borough of York has 7 employees buying $2½
million worth a year.

In each borough the organization has evolved to
suit the purchasing demands. In the City, considerable
delegation of responsibility is essential to provide com-
plex purchasing services to the many departments and to deal
with a great variety of purchased services and commodities.
But in an established borough with modest growth, the organi-
zation reflects the stability and relative simplicity of the
task.

The Toronto Transit Commission operates the second
largest purchasing department in the area. It bought $27
million worth of goods and services in 1975 and employs

75 people. The level of activity at the T.T.C. varies considerably with the state of new construction contracts. The T.T.C. is unique among the entities. It is very similar to a large private sector transportation company. Its purchasing needs are highly specialized, and specific to the transportation industry. In 1975, $7½ million of the purchases were for new construction. A Director of Materials responds to the Assistant General Manager, Operations. Under the Director, responsibility is apportioned to three management groups: Purchasing, Regional Stores and Administrative Services. Purchasing is done by the Purchasing Agent, who contacts prospective suppliers, obtains quotations and issues purchase orders.

The Chief Storekeeper operates warehouses at Hillcrest, Parkdale and Greenwood yards, the stationery stores and all receiving and shipping activities. The Administrative Services Supervisor is responsible for expediting, investigating errors, materials cataloguing and maintenance of records and statistics.

Each school board is also involved in purchasing. In the case of the Metropolitan Toronto School Board, the activity is confined to buying supplies for schools for the retarded and for the administrative office. The East York Board of Education spends $1,500,000 annually and has 4 employees under an Assistant Superintendent, Business, while North York has 57 employees whose purchases amount to about $14 million a year. The Metropolitan Separate School Board purchases $13 million annually through a Manager of Purchasing and Supply, with 21 employees. In most school boards the purchasing units report to the senior financial official. The purchasing agents belong to a Metro-wide cooperative purchasing committee. This occasionally calls for tenders on items such as furniture, if a standard specification can be agreed upon.

To buy its general supplies each library board has its own small purchasing activity ranging in size from less than 1 full-time employee in some boards to 4 employees in the North York Public Library Board. Getting supplies for the libraries is not a major task. The buyers respond variously to the Assistant Chief Librarian, Plant and Business Manager, Controller, or Business Administrator. The buying of books - a significant and specialized library activity - did not come within the scope of the study.

Each public utility has a purchasing department, with a staff ranging from 4 in East York to 29 at Toronto Hydro. There is no common pattern of responsibility. The purchasing unit reports to the Operations Manager, the Chief Engineer, the Treasurer or the Director of Management Services. The larger commissions subdivide responsibilities for specialized tasks such as stores, buying and materials control.

3. THE PROCESS

The degree of systems sophistication varies with the size and complexity of the purchasing activity.

The large shared purchasing services of the City and Metropolitan Municipality have many special systems for tendering, bidding, standards specification and quality control. The City and the boroughs have well-documented policy statements on purchasing and tendering. Purchasing and inventory control records are hand-kept in most of the boroughs, though the Borough of North York has a partially computerized inventory control system. The City of Toronto has computerized its standard stock list and mailing lists for tendering, and is planning to install a new inventory control system early in 1977. The City's stock list is widely distributed and serves as a shopping catalogue for the numerous Metropolitan Municipality and City departments, as well as The Parking Authority of Toronto and other agencies.

The Toronto Transit Commission has written standard practice manuals on purchasing policies and practices. Several computerized systems are in operation. They cover inventory records, reorder routines and a microfiche stock catalogue with reading machines at all major locations. Further tying together of computerized purchase order/receiving report/expediting systems is to take place in 1977.

Most school boards do not use sophisticated computerized systems. They all have well-defined procedures and policy statements on tendering and purchasing authority. Blanket order purchasing routines and automatic reordering are used in some instances. The North York Board and the Toronto Board have employed electronic processing quite extensively. Most boards plan to extend or adopt automated systems for purchasing and inventory control. The Metropolitan Separate School Board has centralized its purchasing, despite the wide distribution of its schools across the Metropolitan territory. Its computerized purchasing system is linked to its budgetary control system.

The library boards have very simple systems and procedures, suited to their limited volume of buying. A high proportion of their purchases is from library supply companies that maintain inventories of standard items and can provide fast delivery.

The hydro commissions are in various stages of systems improvement. Etobicoke Hydro has computerized its stock control. At North York the inventory, purchasing and supply control records have been computerized, with data made available through "on line" display screens. Scarborough has a computerized inventory control system with weekly and monthly reporting of stock levels and issues; it is to be converted to an on-line basis. The Scarborough Public Utilities Commission has made some progress in common tendering with the Board of Education and the Borough. Toronto Hydro has created advanced computerized purchasing and inventory control procedures, which include such techniques as "mean average deviation" calculations to provide more accurate lead time for re-ordering. East York Hydro, being a smaller commission, relies upon manual systems.

The Parking Authority of Toronto has no purchasing department. Managers prepare their own purchase orders and obtain the needed signing authorization. The City of Toronto stock list is used as a price guide and source for common items.

4. STATISTICS ON WORK DONE AND COSTS

The table on the next page presents the numerical information supplied by the entities, and the succeeding page shows ratios derived therefrom. The figures give an overall indication of purchasing costs, transaction volumes and money spent. The ratios show large divergences among the entities. Employee compensation and benefits account for 90% of identifiable purchasing costs. The figures include warehouse labour but not such indirect costs as rent, accounting or data processing.

Be cautioned against making direct comparisons or giving undue attention to any single statistic. The organizational arrangements and the scope of the services provided vary among the entities. Each has different operating challenges. Individual large contracts can distort the numbers. The Boroughs of North York and Scarborough, for example, have significant programs underway to install new infrastructure and consequently have a high proportion

PURCHASING AND STORES

STATISTICAL ESTIMATES

	Employees Dec.31 1975	Cost ($000)	1975 Purchase Orders	Purchases ($000)	Inventory Dec.31, 1975 ($000)	Notes
Municipality of Metropolitan Toronto						
Board of Commissioners of Police	15	$ 207	96	1,166	100	(1)
Toronto Transit Commission	75	1,082	23,500	27,500	10,344	(2)
Area Municipalities – East York	4	58	4,120	1,007	107	
– Etobicoke	22	300	6,500	10,000	555	
– North York	14	180	6,362	6,000	577	
– Scarborough	21	352	12,000	6,813	350	(3)
– Toronto	77	1,188	41,770	56,439	1,263	
– York	7	100	3,800	2,500	190	
The Parking Authority of Toronto	–	–	–	–	minor	
Library Board – Metropolitan	1	11	510	123	5	
– East York	1	3	170	32	–	
– Etobicoke	1	24	548	217	11	
– North York	4	49	1,445	500	80	
– Scarborough	2	27	1,028	130	minor	
– Toronto	3	48	1,260	270	minor	
– York	1	8	69	minor	4	
Hydro Commission – East York	4	81	826	1,065	650	
– Etobicoke	10	176	1,700	1,814	1,576	
– North York	19	259	2,200	7,875	2,471	(4)
– Scarborough P.U.C.	22	325	3,495	4,755	2,200	(5)
– Toronto	29	483	3,862	6,267	3,260	(4)
Metropolitan Toronto School Board	–	6	1,010	280	–	
Board of Education – East York	4	70	7,480	1,500	60	
– Etobicoke	26	332	26,500	10,200	500	
– North York	57	712	46,772	13,882	881	
– Scarborough	37	487	23,524	13,894	460	
– Toronto	50	732	52,000	10,800	529	
– York	9	170	15,000	2,500	250	
Metropolitan Separate School Board	21	248	55,326	13,519	150	
	536	$7,718	342,873	$201,048	$26,573	

Notes:
(1) Uses City of Toronto purchasing services. Some departments have their own stores.
(2) Uses City of Toronto purchasing services extensively.
(3) Including services to Metropolitan Municipality.
(4) Purchases include substantial capital construction.
(5) Includes water utility.

PURCHASING AND STORES

STATISTICAL ESTIMATES

(continued)

	Purchasing and Stores Cost, 1975		Purchase orders per purchasing department employee
	% of $ value of purchases	Cost per purchase order	
Toronto Transit Commission			
Area Municipalities – East York	3.9	$46.04	313
– Etobicoke	5.8	14.08	1,030
– North York	3.0	46.15	295
– Scarborough	3.0	28.29	454
– Toronto	5.2	29.33	571
– York	2.1	28.44	542
Borough of York	4.0	26.32	543
The Parking Authority of Toronto	–	–	–
Library Board – Metropolitan	8.9	21.57	510
– East York	9.4	17.65	170
– Etobicoke	11.1	43.80	548
– North York	9.8	33.91	361
– Scarborough	20.8	26.26	514
– Toronto	17.8	38.10	420
– York	–	–	69
Hydro Commission – East York	7.6	115.94	207
– Etobicoke	9.7	98.06	170
– North York	3.3	103.53	116
– Scarborough P.U.C.	6.8	117.73	159
– Toronto	7.7	92.99	133
Metropolitan Toronto School Board	2.1	125.06	–
Board of Education – East York	4.7	5.94	1,870
– Etobicoke	3.3	9.36	1,019
– North York	5.1	12.53	821
– Scarborough	3.5	15.22	636
– Toronto	6.8	20.70	1,040
– York	6.8	14.08	1,667
Metropolitan Separate School Board	1.8	11.33	2,635
Average	3.8%	$22.51	640

of capital projects and construction. The Scarborough
Public Utility Commission looks after both electrical
and water services. Toronto Hydro is involved in much
redevelopment and underground servicing.

The percentage of purchasing cost to dollar value
purchased, and the cost per purchase order, are rough measure-
ments of productivity. The figures on volume of orders
per employee provide a very general indicator of workload -
but consideration must be given to the order characteristics.
A hydro commission or the T.T.C. may issue very complicated
orders, requiring considerable negotiation and evaluation,
for enormous sums of money. They also maintain large spare
parts warehouses. Orders to replenish stock items, on the
other hand, can be processed with a minimum of clerical
effort.

Altogether the entities purchased about $200 million
worth of goods and services in 1975 and employed 536 people
to do or assist in the buying. The total identified pur-
chasing and stores cost was $7.7 million. They placed about
340,000 purchase orders, had an identified inventory of about
$26 million and administered 40 substantial warehouse loca-
tions or storage areas. The average cost to place an order
was $22.51 and 3.8% of the dollar value purchased was re-
quired to supply the purchasing and stores service. The
purchasing departments buy the equivalent of $93 worth of
goods and services for every man, woman and child in Metro.

While the figures have obvious limitations, and
contain fairly wide margins of error, we believe they sup-
port the subjective information we gathered in the study.

For example, the larger municipalities do not
seem to be more efficient than the smaller ones. No
economies of scale are clearly apparent. Nor has the ins-
tallation of computerized systems produced any obvious
savings. Perhaps advanced systems are needed just to
maintain the previous level of economy as an entity grows
larger and more complicated. The library boards, with their
high level of purchasing cost to value of purchases, seem to
be an illustration of high cost attributable to small volume.
Still, they have less than 1% of the total purchases, and
employ only 13 purchasing people, so the impact is rather
insignificant.

5. THE KEY ISSUES

a) Economies of Scale

Would benefits accrue from more centralization of
the purchasing function - or is the present, basi-
cally decentralized activity effective? The stati-
stics do not point to major benefits from centrali-
zation. The figures, of course, reflect only basic
direct costs; they do not show benefits to be gained
through purchasing at a lower price, better defined
contracts or lower inventory carrying costs. Our
analyses did not lead us to think that greater ef-
ficiency would result from amalgamating the purchasing
function either under Metro or under each municipality,
e.g. by combining the City or borough with its hydro
commission, library board and school board.

b) Specialization

Is there a need for specialization? We were told
many times, in our interviews, that purchasing does
need special skills, that purchasing is a profes-
sion requiring training and experience and that the
department has to be of sufficient size to attract
and maintain these skills. It should be large
enough to have a full-time head with purchasing
experience, and staff with expertise in buying,
inventory control and stores management.

The City of Toronto has many special skills with
regard to contracts, standards and specifications,
inspection and administration. These are apparently
necessary and beneficial, since the City does the
purchasing for all Toronto and Metro operating
departments. In smaller municipalities, similar
specialized support exists, but may not be identi-
fied specifically with the purchasing department.
In a small municipality, works department engineers
will have a close relationship with the purchasing
department staff and advise them on specifications
and standards. The specialized skills are in place,
but are less structured.

c) Use of Advanced Systems

There is considerable difference among the entities
in the extent to which they use modern purchasing
and inventory management systems. Some have very
advanced computerized systems, while others keep
records manually. Most have a program of continual
systems improvement. Since purchasing and inventory
management systems requirements are largely common
to all purchasing activities, it is unfortunate that
so far there is no formal means to share experi-
mentation and system development.

Smaller entities feel that, despite a lack of ad-
vanced systems, they benefit from good communications,
intimate knowledge of their customers' needs and a
higher degree of dedication which they believe to be
inherent in a smaller, more intimate organization.

d) Local Communications and Knowledge

Further centralization was opposed almost univer-
sally by our informants, because they felt that
centralization would result in a loss of familiarity
with the customers' requirements, and would lead to
delays, misinterpretation of needs, red tape and
errors. These adverse consequences, they thought,
would offset possible benefits derived from speciali-
zation of skills and more computerization.

Many felt that "the staff, although small, are con-
stantly seeking improvement and are conscious of their
responsibility"; "pride and loyalty in the purchasing
staff is caused by their independence and sense of res-
ponsibility"; "local responsibility enables us to give
much more prompt personal service"; "handling stock items
locally gives a more satisfactory service". In our view,
these are valid comments.

The purchasing staff are the agents who spend the
money authorized by capital or operating budgets.
They are a link in the financial accountability
system. There should be feedback from purchasing
to operating people on changes in quality, new
products or alternate specifications for standard
products.

e)   Cooperation Among Entities

There is one school of thought which holds that
joint or cooperative purchasing could be beneficial
for bulk commodities such as sand, road salt and
fuel.   Another argues that the purchasing departments
have already negotiated the best price and that
greater quantity buying would be of little help.

Many purchasing agents feel that their relationships
with their counterparts in other entities are very
good, and that they are free to exchange information
on prices, quality, reliability and systems in an
informal way.   Some wish that this relationship could
be more structured, and say that some benefits could
accrue from a greater sharing of experiences.

f)   Commodity Differences

The twenty-seven purchasing departments have many
things in common.   They all buy a multitude of
normal operating supplies.   But buying school board
equipment, subway rolling stock, library supplies and
electrical distribution equipment is not a uniform
task.   Buyers may not be readily interchangeable since
extensive background, experience and knowledge of the
commodities being purchased are essential.   Merging
specialized purchasing skills into a larger unit would
be of doubtful benefit.

g)   Performance Measurements

There is a need for measurements of effectiveness.
If there were some method of regularly comparing
the performance of the various purchasing groups,
an incentive for the low performers to raise their
effectiveness to that of the better performers would
exist.   A little competition stimulated by good
management information could be beneficial.

h) Local Sharing

Almost all of the present purchasing organi-
zations were opposed to any further centrali-
zation of purchasing service. They considered
the existing close communications with their cus-
tomers - operating departments, individual schools
and the libraries - to be a vital ingredient of the
purchasing process. There was, however, some in-
dication that within the territory of a borough,
some centralization could help. For example, the
library board or school board's purchasing could
be handled by the borough's purchasing department.
In the smaller municipalities, it could be argued
that merging the various purchasing departments
within that municipality's territory would not
lead to a remoteness in communications and would
offer some benefits of specialization.

6. RECOMMENDATIONS

Further centralization should not occur without
demonstrable benefits. Changes must strengthen lines of
communication, foster sound management systems, attract
talented staff members and safeguard responsiveness to
the needs of user departments.

Because the entities we have studied have
different needs and capabilities, we make separate recom-
mendations for each category.

The Area Municipalities

i)   Purchasing and stores should not be centralized
     beyond the level of the area municipality. Each
     area municipality should be totally responsible
     for its own purchasing and stores functions.

ii) The purchasing and stores departments should be
     close to their customers - the operating depart-
     ments. Stores, particularly spare parts for
     maintenance, must be close to the people needing
     them. Over-consolidation of stores would increase
     waiting time and travel, and reduce the efficiency
     of the work force.

iii) A Metropolitan-wide purchasing committee should be
     strongly encouraged to share systems information, prices,
     stock catalogues and specifications with the various pur-
     chasing departments. The committee should be composed

of senior purchasing and stores managers from each
entity, including the Metropolitan Municipality.
The committee should have terms of reference, meet
regularly and publish a brief annual report on its
achievements.

iv) Management information should be developed for compara-
tive reporting to the officials of each entity.
This information would include key indices and limited
commentary on comparative costs, efficiency and effec-
tiveness of the purchasing and stores activities, and
would act as an incentive to better performance.

The City and the Metropolitan Municipality

v) The present arrangement for sharing purchasing systems
and staff should continue. It works. Many of the user
departments occupy the same building or are close to the
core area of the City. There is much that is common
to many purchases for roads, works and parks. There
is no transportation or communications conflict such
as would exist if the boroughs shared a common pur-
chasing service.

School Boards

vi) A separate purchasing function should be retained in
at least the larger public boards of education. It is
possible that some administrative benefit could accrue
to smaller boards by having their purchasing done by the
borough purchasing department. Buying and distributing
school supplies, books and equipment are special tasks, and
if they are handled by the borough a distinct unit within
the borough's purchasing department should be responsible
for servicing the school board. The school board would
maintain budgetary control, authorize the purchases and
negotiate the contractual arrangement to pay for the service.

vii) The present organization of purchasing and stores in the
Metropolitan Separate School Board should be kept. It
is large enough to achieve economies of scale, is closely
linked to its management and appears to be effective.

Library Boards

viii)   Consideration should be given to having one library
        board (Metropolitan Toronto or City of Toronto) pro-
        vide central stores services for common items on a
        fee-for-service, cost recovery basis. The present
        purchasing groups are very small and seem to have a
        high purchasing cost in relation to the dollar value
        of purchases. Some level of centralization is
        warranted, even though the dollar cost of purchasing
        is quite small.

Hydro Commissions

ix)   The present structure for purchasing and stores in the
      major commissions should be retained. Consideration
      should be given to merging the purchasing activity for
      the smaller commissions with the borough's purchasing
      department, but keeping therein a small, identifiable
      group funded by the commission. Success of this
      approach would depend upon good communications and
      reasonable proximity of commission engineering and
      operating management to the borough purchasing department.

Toronto Transit Commission

x)   The purchasing and stores function should stay within
     the Commission. The department is large, many commo-
     dities are unique, and there is a need for close
     liaison between the purchasing function and the
     operating, maintenance and construction groups.

Board of Commissioners of Police

xi)   The present system of requisitioning purchases through
      the City of Toronto purchasing department should continue.

The Parking Authority of Toronto

xii)   The present purchasing arrangement drawing upon help
       and advice from the City of Toronto purchasing depart-
       ment, should be retained.

X.   PRINTING

1.   THE FUNCTION

Printing is the duplication of manuscripts, art work, photographs or special layouts to record and communicate information. There is a wide spectrum of processes. The offset process is most common; the ink is transferred from a master to a printing cylinder and then to paper. A newer process uses an electrostatically produced plate, with the printing and collating done sequentially on one machine. A letter-press prints from a raised image cast as hot metal or etched; the type can be set manually, or cast automatically on linotype machines. Computerized photo-composition rapidly prepares camera-ready copy in a variety of type faces; the copy is easily corrected and stored for retrieval.

Within each process there are many press sizes, colour capabilities, running speeds and levels of automation. Each process has economic operating characteristics depending on the size of the run, quality desired and lead time.

Associated with the printing function are many ancillary activities: collating, perforating, scoring, punching, binding, gluing, cutting, stapling and stitching.

There are extensive in-house facilities in most of the entities. To supplement their facilities, they use the wide variety of commercial printing services available from the private sector. The commercial companies offer a vast range of equipment and skills at competitive prices. Art work and four-colour reproduction are mostly contracted to such companies.

Typical local government printing work comprises forms, stationery, booklets, reports, agenda, electoral lists, manuals, specifications, posters, by-laws, curricula and notices. Getting copies of minutes and reports for councils, commissioners, boards and committees, often in a rush, is a major demand in many entities.

Routine photocopying is highly decentralized and is not counted as "printing" within this study. However, it should be noted that the cost of modern high-speed photocopying is sometimes competitive with that of printing.

None of the municipal entities has a complete range
of printing services. All depend to some degree on
outside suppliers for their printing needs. Frequently
the internal printing department acts as an agent and
advisor on contracting outside.

2.   RESPONSIBILITY

Responsibility for printing is highly decentrali-
zed. Depending on their size, most entities have one or
more printing centres.

The City of Toronto has eight offset printing
presses. Its largest printing group is in the Department
of Purchasing and Supply. Toronto Hydro has a small in-
house printing service. The City Clerk's Department has
two presses and the Planning Department one. In 1975, 156
special jobs were contracted out at a cost of $123,000.
The printing unit of the Purchasing and Supply Department
does most long runs, while the work in the Clerk's Depart-
ment consists mainly of "quick printing" jobs. The Planning
Department produces copies of its reports for the Planning
Board and the committees of Council. Work beyond its capa-
city is sent to Purchasing and Supply or to outside firms.
The printing unit in Purchasing and Supply provides printing
services to most departments of the Municipality of Metro-
politan Toronto.

The City uses two related computer-based systems -
Storage and Information Retrieval System (STAIRS) and
Advanced Text Management System (ATMS) - to save money in
producing minutes and reports and to provide easy reference
to them. The Municipality of Metropolitan Toronto may soon
adopt similar methods, using the City's computer facilities.

In the Borough of East York, printing is handled
by one operator who reports to the Borough Clerk. The
Borough looks after the needs of the Library Board. The
Board of Education and the Hydro Commission do not have
their own printing facilities; they contract their work
to local printing shops.

A Printing Supervisor in the Borough of Etobicoke
reports to the Borough Clerk and provides in-house prin-
ting for Council and 14 Borough departments. The Board
of Education has a Printing Department of its own. The
Library Board operates a small service. The Hydro Commis-
sion purchases its printing from outside suppliers.

In the Borough of North York there is one small printing facility in the Clerk's Department. The other departments do their own in-house reproduction on a variety of offset presses. The Board of Education has a printing department under the Assistant Manager of Purchasing. The Library Board performs an independent printing service under the Public Relations Coordinator.

The Borough of Scarborough has a Printing Manager, who operates a centralized printing service in the purchasing department. Printing is done for Borough departments, the Board of Education, the Public Utilities Commission and the Library Board (which also maintains a one-machine, one-operator printing capability).

The Borough of York contracts for the operation and staffing of its printing facilities with a commercial printer.

The Board of Commissioners of Police has a printing facility under the Director of the Records Bureau in the Administrative Services Group. The Toronto Transit Commission operates a comprehensive printing unit under the Superintendent of General Services. The unit is equipped to handle layout, design, typesetting, illustration and audio-visual aids.

The Metropolitan Toronto School Board has no in-house printing capability; it contracts its requirements to commercial printing houses. The Metropolitan Separate School Board employs a Printing Supervisor in its Office Services Group. The Metropolitan Toronto Library Board runs a small in-house facility, but contracts significant amounts of work to commercial printers.

Altogether the entities have at least 45 offset printing presses.

3.   THE PROCESS

Most printing needs of the municipal entities are for straightforward reproduction: duplication of source documents such as minutes, agenda, reports and simple forms. Most work is single colour - black on white.

The service is characterized by uneven demand, run-size and level of quality. Minutes of meetings and agendas must often be available on short notice. Reports typically are "rush" while the production of forms, which are usually stock items, can stand a longer lead time. The facility must be capable of handling anything from very short runs of a few sheets to hundreds of copies of voluminous reports. Quality requirements vary widely, photocopied minutes and agendas are acceptable to some jurisdictions whereas others want them printed. Most reports call for a good quality of offset printing.

4.   STATISTICS ON WORK DONE AND COSTS

Cost and volume statistics supplied by the entities were not comprehensive or comparable. Some did not know their total printing costs, because these were carried within individual department budgets. Others could not separate printing from photocopying and the purchase of specialized interleaved carbon or computer forms, all of which were lumped in the budgets.

Still, it is clear that a significant sum of money - several million dollars - is spent on printing. The City of Toronto had about $673,000 of identifiable costs in 1975, including its work for the Metropolitan Corporation. Scarborough reported $166,000 of direct cost, including services to the Board of Education and Library Board. Etobicoke spent $267,000 on printing but this included $85,000 of contracted printing, much of it for business forms which many other entities did not count. The Borough of North York spent $264,000 - $208,000 of this being for outside printing services.

5.   THE KEY ISSUES

Most of the entities are satisfied with their printing services. They do not feel that costs of printing are excessive. Most entities of some size make periodic comparisons between in-house costs and commercial prices. Typical comments: "the service and quality are quite satisfactory"; "I feel the scope, quality, costs and methods are satisfactory"; "service, quality etc. are very acceptable"; "high standards of printing are produced".

Rush jobs are a chronic source of frustration in most municipal entities. As soon as a report is written and typed, printed copies are expected to materialize; zero lead time frustrates the printers' carefully drawn plan and schedules.

Sample comments: "Meeting production demands caused by ever changing requirements of Council is a problem"; "too many rush jobs arriving simultaneously"; "the key problem is short lead time for printing"; "lack of lead time affects user costs".

Obsolescence of equipment is another issue raised by printing managers. Some are pleased with their present processes, but others look to modernization to lower operating costs, raise delivery performance and improve quality. Quick printing processes are favoured to eliminate the lead time to produce plates. Improvements under consideration include photo-composition processes, Itek cameras, automatic production of electrostatic masters, printing and collating, printing on both sides of the sheet, and higher speed machines.

Several officials worried about the high cost of modernization, and acknowledged that new investment must be repaid through higher efficiency. The resale value of used offset printing equipment is not high, so a significant improvement in performance would be required to justify new machines. Other benefits such as improved delivery performance and better quality are subjective. We heard few complaints about quality of service, although the possibility of improvements is recognized. The question is not whether the quality is the best possible, but whether it meets the needs of the user.

Photocopying and printing are natural enemies. Where delivery dates are uncertain, lead times extended or communications difficult, there is a tendency to photocopy large quantities of material which could be reproduced at less cost by printing. The convenience element of having the photocopier just down the hall naturally leads people to use it. Printing services therefore must be readily available if more expensive photocopying is to be discouraged.

Modernization may call for some degree of local centralization, which could in turn cause a loss in quality and responsiveness of service, thereby contributing to more extensive use of costlier on-the-spot photocopying equipment. Such a chain reaction must not be allowed to occur.

Municipal entities could, if they so chose, adopt one of two policy decisions: contract more jobs to commercial printing houses, or alternatively buy enough equipment to enable them to do all printing in-house. We see no compelling reason to move in either direction.

In 1976 the City's Management Services Department completed a study of printing and duplicating activities in the City of Toronto, "Study of Printing and Duplicating Requirements". It concluded that committee reports and minutes should be printed by an outside contractor from in-house camera-ready layouts and applying the STAIRS/ATMS computer systems. This had the lowest calculated cost (but the difference from several other alternatives was not much – probably within any margin of error in estimates). However, added in-house capabilities would require capital expenditure. The study gives an excellent analysis of the needs and ways of servicing the City and the Metropolitan Municipality. It can serve as a useful guide for other entities.

Those commercial printing establishments whose competitive instincts are good are willing to provide very fast service. The question is: would they be equally attentive if they were not in competition with an in-house printing department? Certainly long runs utilizing large, high-speed facilities in the private sector can provide cost savings – but each case should be judged on its own merits. While there is a concern to avoid over-dependence on outside suppliers, most entities are generally satisfied with the present mix of in-house and outside printing.

Centralization of printing for Metropolitan Toronto is not really a practical solution and was not seriously proposed by anyone. We agree with those who believe it would be characterized by slow delivery, communications problems and high transportation costs. No one claimed that a large multi-machine printing centre can be more efficient and effective than a fully loaded small facility with modern equipment. There was, however, some criticism

directed against the extent of decentralization in
some entities. In the Borough of North York, for
example, printing is mostly decentralized to the de-
partments; however, the Borough plans some degree of
centralization when it moves into its new municipal
building in 1977.

6.   RECOMMENDATIONS

       We do not propose any extensive change in the
present organization structure, facilities or methods.
In most entities, printing does not cause concern about
who should be responsible, or whether further centrali-
zation is advisable.

i)   A centralized printing service should not be
       created for Metropolitan Toronto or major
       parts of it. Any economies of scale and the
       benefits of high-speed, modern equipment would
       not cover the higher cost of communications,
       delays, loss of responsiveness and conflicts
       among priorities.

ii)   Each printing unit should be big enough to
       justify a variety of processes, modern equip-
       ment and bindery support facilities provided it
       can be fully utilized.

iii)   A common internal printing service should be
       used when entities or departments share a
       building, or are near each other. Separate
       facilities should be provided where a depart-
       ment, board or commission has a separate location
       and has a sufficient workload to have at least one
       operator and one printing machine. The "rush job,
       quick response" characteristics of the service sup-
       port such decentralization. Its advantages outweigh
       any potential economies which might be achieved by using
       a remote central service.

iv)   Contracting to commercial printing companies a
       significant proportion of total printing demand
       should be continued. In particular, special quality,
       colour printing, very large jobs, and peak load work
       customarily should be contracted out.

v) The Purchasing Department should be a natural
    home for administering printing services, par-
    ticularly when purchased printing is common.
    Purchasing people have skills in tendering and
    cost comparisons that help to secure the most
    economical printing source.

vi) Guidelines should be established for when to
    photocopy and when to print and on what machine,
    to encourage use of the cheapest process.

XI. MAPPING

1. THE FUNCTION

Maps provide a picture of natural land features
and man-made structures with dimensional information of
sufficient accuracy to serve the needs of the community.
Maps are prepared on different scales so that different
amounts of detail or breadth of view can be presented.

Today the basic source of information for map
drawing is aerial photography. From the basic photo-
graphs, maps for specific purposes can be prepared. Some
maps emphasize street and road patterns. Topographical
maps use contour lines to show drainage patterns and land
forms. Planametric maps show detailed information on
buildings, road access, wood lots and street configurations.

Many variations and combinations can be created
from the base mapping. Street maps can be overlaid on
aerial photographs. Contour lines can be added to plana-
metric maps. Property boundaries and lot numbers can be
displayed on a planametric map.

Governments, businesses and private citizens all
need reliable maps. Road and transportation planning, uti-
lities construction, urban design, sewer and water main
layout and electrical installations depend on maps. The
private sector requires accurate maps to plan development
and construction projects. Maps define the limit of pri-
vate and public property. Special purpose maps record
the location of underground installations such as subways,
sewers, water mains, telephone lines, gas lines and elec-
tric distribution networks.

To be useful to the surveyor who has to find
a property boundary or a telephone cable or to delineate
new construction, maps must be referenced to physical
markers, which are bronze disks embedded in concrete.
Horizontal markers serve as reference points for linear
measurement. Vertical markers (benchmarks) record the
elevation of the land. These markers allow the map in-
formation to be related to identifiable structures.
Control over the location and placement of these markers
is an essential part of the mapping process. Maps must
be kept current and easily accessible to municipal and
private users.

There is a growing body of information and research on mapping technology. The ultimate concept is completely computerized land information systems where all dimensional, demographic, environmental, land capability and land title information is recorded in computer files. The information is available on display screens or computer terminals, for printing in tabular form or automatic plotting to any chosen scale and level of detail.

2. RESPONSIBILITY

Overall responsibility for mapping rests with the Government of Canada. Provincial ministries, the Central Mapping Division of Metro, the City of Toronto, the boroughs and the Public Utilities Coordinating Committees also have responsibility for regional or local mapping. A comprehensive study in 1973, "Map Agency Proposal, A Study for Metropolitan Toronto", concluded there was a need for a central mapping agency in Metro. The Metropolitan Council agreed, and a central unit for control surveying and mapping was set up in 1974, in order to:

- set standards for control survey work (accuracy, density and coverage of survey markers);

- maintain an index of control survey markers;

- physically maintain the control survey markers, using the staff of area municipalities or other means;

- set mapping standards and provide quality control for existing mapping programs;

- administer cost allocations with regard to certain maps, paid to area municipalities from the Metropolitan Municipality budget;

- act as a repository for maps prepared under the grid system (maps related to the provincial system of geodetic coordination);

- provide an effective map distribution system;

- store and update maps received from area municipalities.

The agency was made temporarily a Division of the Metropolitan Department of Roads and Traffic. An advisory committee was appointed comprising the works commissioners of each area municipality, the Works Commissioner and the Roads and Traffic Commissioner of the Metropolitan Municipality and a representative of the provincial government.

Each area municipality is responsible for the provision of maps for its own use. Mapping tasks are generally performed by the works departments. The planning departments maintain secondary material such as zoning, ward and subdivision maps.

The Toronto Public Utilities Coordinating Committee functions under arrangements dating back to 1933. No formal agreement or terms of reference cover the Committee's work. It meets quarterly, elects a chairman on a rotation basis and collects funds from its members for transfer to the City to be used to maintain public utilities maps. Members include the City Works Department, the T.T.C., the Toronto Hydro Commission, Bell Canada, Consumers' Gas Company and Ontario Hydro.

A Metropolitan Public Utilities Coordinating Committee was formed in 1959 to provide similar liaison between Metro and the utilities. A levy on the Committee members is used to fund preparation of common utilities maps. Membership includes the Ministry of Transportation and Communications, the private utilities, the borough hydro commissions and the Metropolitan Municipality Works and Roads Departments.

The map requirements of the Board of Commissioners of Police, school boards and library boards are quite simple and are easily met within their own organizations.

3. THE PROCESS

The "Map Agency Proposal, A Study for Metropolitan Toronto", of October 1973, and two internal reports of the Division, the "Maps and Plans Inventory Report" and "Control Surveying and Mapping Programs as of January 1, 1976", describe in depth current mapping activities and advocate new programs for the future.

Broad mapping policies such as general geodetic standards are set by federal and provincial authorities. The Government of Ontario has established a ground control

survey network as part of the Ontario coordinate system. New base mapping in Metropolitan Toronto is designed to be compatible with the provincial system.

Some of the activities necessary for a municipal mapping function are:

Development of standards. A central authority should set standards, prepare common practices and guidelines, and define the methods to obtain the required degree of accuracy and clarity. Standards help to guarantee accuracy and support a reliable interchange of information. Federal, provincial and municipal authorities as well as users of the system are part of the standards-setting process. The Central Mapping Division has major responsibility for standards in the Metropolitan area.

Quality control. A quality control activity ensures that standards are being adhered to and that the accuracy is as specified. It also reviews the work of consultants and private sector surveyors. This is a responsibility of the Central Mapping Division.

Aerial photography provides the basic information for making maps. Depending on the height flown, equipment used and frequency of the photographs, levels of detail and accuracy can be provided to satisfy diverse needs. Private companies provide this highly technical service.

Map plotting can be manual, semi-automatic or completely computerized. A machine may be used to trace selected images from a photograph to a paper or transparent surface. More advanced plotters electronically store dimensional data, which can be displayed on a screen, printed as tabulations of dimensions or used in the future to draw a map automatically. Plotting from aerial surveys is performed by aerial or land survey companies or under contract by various government agencies. Each municipality is responsible for its own map plotting program.

Establishing markers. Permanent markers for
surveying purposes are part of a national
system of land identification. First-order
markers were established in Metropolitan Toronto
in 1961 by the federal government. It also placed
492 second-order markers, which are referenced to
the first-order markers, by 1963. Since then the
municipalities have undertaken a program to locate
10,000 third-order markers, being the next level
of detail. The municipalities contract the sur-
veying, use their own survey crews, or use the
Central Mapping Division.

Vertical control markers (benchmarks) follow a
similar procedure.

Completion of the marker program to the standards
set by the Central Mapping Division is an area
municipality responsibility.

Preparation of base maps. The Municipality of
Metropolitan Toronto initiated a base mapping
program in 1965. The base maps are plotted
from aerial surveys at a scale of 1 inch to 40
feet and are referenced to the provincial co-
ordinate (grid) system. Under this program
each area municipality is responsible for
the mapping in its area. They provide most of
the funds, which are supplemented by the Muni-
cipality of Metropolitan Toronto and the Ministry
of Transportation and Communications of the
Government of Ontario. This mapping program is
about 50% complete.

The City of Toronto opted out of this program
in favour of a less expensive scale of 1 inch
to 100 feet for base maps. The City also al-
ready had a public utilities map series at a
scale of 1 inch to 20 feet. This was considered
more suited to the needs of mapping the under-
ground installations in the core area of the City.

Derivative maps. From their base maps, the
boroughs and the City prepare several series of
maps to various scales. These show special features
such as roads, assessment, property title, contours,
utilities, zoning and wards. The scale depends
upon the purpose of the map. Common scales are 1
inch to 20, 40, 100, 200, 500, and 1,000 feet.

There is a constant need to maintain current infor-
mation on special purpose maps. When redevelopment
or new development occurs, existing buildings must
be removed from the maps and new buildings added.
Likewise new subdivision plans and utility instal-
lations are recorded in "as built" condition. The
information is usually provided to the mapping
group by the building or development department
of a municipality. The Metropolitan Municipality
also produces maps at various scales for specific
purposes such as planning, parks, and public works.

Research. The major municipal responsibility for
research rests with the Central Mapping Division.
The City and Metropolitan Public Utilities Coordi-
nating Committees also take a considerable interest
in new technology. The computer manufacturing com-
panies actively communicate the capability of the
latest devices and systems. It is the role of the
Central Mapping Division to study computer capa-
bilities, examine the costs and benefits of various
systems, determine the need for information, watch
the activities in other jurisdictions and maintain
contacts with other levels of government.

Distribution of maps is generally done by the
departments within the municipalities. Most
maps are available to the public for a small
fee. The Central Mapping Division has plans
to implement a central index and distribution
system.

4. STATISTICS ON WORK DONE AND COSTS

The "Maps and Plans Inventory Report" and "Con-
trol Surveying and Mapping Programs as of January 1, 1976",
provide an excellent description of the quantity and type
of maps available. In Metro, there are at least 131,000
original maps and plans excluding those held by the public
and private utilities. Most of these maps have been created
over many years, are used for very special purposes and
are distributed in many departments of municipal government.
For example, the Parks and Recreation Department of the
City of Toronto maintains 1,500 landscape maps and 1,000
street planting plans. The Metropolitan Municipality Works
Department has 25,000 water supply drawings.

Useful statistics on the quantities and con-
tents of maps and on mapping costs are hard to come by.
The municipalities do not know how much they spend on
mapping, because maps typically are prepared as part
of the engineering, works or planning processes.
Their costs are buried in the budgets of the respon-
sible departments. However, the 1976 budgeted cost
of the Central Mapping Division of the Municipality
of Metropolitan Toronto was $575,000. The Division
had a staff of 17 at the end of 1975. The City of
Toronto mapping work was reported to have costs of
$50,000 in 1975.

5. KEY ISSUES

a) Role of the Central Mapping Division

The Central Mapping Division was sparked in 1968
by a report of the Metropolitan Toronto Public
Utilities Coordinating Committee, which suggested
that a Department of the Metropolitan Municipality
coordinate new mapping activities. The MTPUCC sug-
gestion was referred by the Metropolitan Executive
Committee to a Committee of Commissioners.

In March 1972 the Metropolitan Chairman called
a meeting of the Committee of Commissioners which
recommended that it arrange for preparation of a
report on the subject to the Metropolitan Council
including recommendations on coordination and a
central authority.

By January 26, 1973, the Committee of Commissioners
had formed a four-member Mapping Study Committee to
determine "whether or not a central authority is
required for quality control and standardization
purposes". The report of the Mapping Study Commit-
tee, titled, "Map Agency Proposal, October 1973",
was submitted to the Metropolitan Council on January
29, 1974. The Council recommended adoption of the
report, but the report's detailed recommendations
were not totally accepted. It was agreed that a
central agency for control surveys and mapping should
be set up, that "its functions and duties should be
limited in certain respects" and that "the Central
Agency should provide quality control of the surveying,
mapping, maintain control monuments (markers) network
and maintain records of control survey monuments and
maps".

The recommendations of the Mapping Study Committee, paraphrased from its report, were:

1) Area municipalities to complete quickly the topographical mapping and marker placement programs.

2) Area municipality councils to require private and public sector builders to submit "as-constructed" data on current projects.

3) A central mapping agency be established to: set standards for control surveying work; keep an index of control markers; be responsible for maintenance of control markers through the area municipalities; set standards, monitor and provide quality control for existing mapping programs; administer the 20% contribution of the Metropolitan Municipality to area municipality base mapping; be custodian for all maps prepared under the grid system; provide an effective map distribution system; and store and update maps received from the area municipalities.

4) The Central Agency temporarily be placed within the Metropolitan Department of Roads and Traffic.

5) Funds be provided.

6) An advisory committee be formed, of area municipality works commissioners, Metropolitan Municipality works and roads commissioners, and a provincial government representative, to ensure effective service and to advise on policy, programs and priorities.

The objectives of the study and the general goals suggest one role for the Central Agency. However the detailed duties proposed by the Mapping Study Committee envisage a more comprehensive service. For example, the specific duties and functions recommended by the Study Committee include:

.   "Act as a repository for maps of all types prepared under the grid system by any agency.

- "Provide an effective map distribution system.

- "Store and update maps received from area municipalities."

Although some municipal officials expressed concern to us about the scope and growth of the Central Mapping Division, others welcomed the idea that some central authority should provide all maps. According to one respondent, "the local municipality should simply order maps from the province or a central agency; the present system leaves too much to chance and the whims of local councils". On the other hand, a borough engineer said that, "with local responsibility, the system is fast and efficient since it is close at hand". In answer to the question, "what can be centralized?", he answered: "Nothing, very limited advantage, more red tape".

Clarification of the role of the Central Mapping Division is made more complex by the fact that it is a Division of the Metropolitan Department of Roads and Traffic. It has a mixed bag of tasks. It conducts research. It studies and recommends policy. It sets standards and exercises quality control. But it also delivers service by being a repository for maps and providing for their distribution. Should an organization whose main job is the setting of standards and provision of quality control be responsible for policy formulation and extensive service delivery?

There is apparent agreement on the need for a central mapping group. The consensus does not, however, extend to the role of such an agency, the scope of its activities, or its accountability.

b)   Cost-Effectiveness

Municipalities operate within tight financial
constraints and the mapping program has to be
justified through the budgeting process.   There
is an apparent conflict between what the profes-
sional wants and what the public as represented
by its elected representatives is willing to pay.
We found a general consensus in the area munici-
palities that the present level of service meets
the needs of municipal entities, citizens and
industry.   Gradual improvement and the careful
matching of map demand to budgeted resources is
the objective of most municipal mapping groups.
We also heard some opposing claims that quality
is not high enough, that modern methods are not
used and that a host of problems is on the hori-
zon.

Modern technology - that which is scientifically
achievable - may be years ahead of widespread
practical application in the mapping field.   The
possibility of doing something very advanced is
not reason enough in itself for doing it.   There is
some feeling that rather elaborate and expensive
programs are being proposed, for the sake of marginal
benefits.   Perhaps the "whims of local councils" are
only the political system at work, ensuring that value
is received for monies paid!

c)   Duplication and Timing

Duplication is a potential problem with regard to
the mapping work done by the Central Mapping Divi-
sion, the province, the federal government and the
private sector.   Expanded municipal mapping faci-
lities, with excess capacity, might reduce private
companies' domestic work and impair their skill.
We were told that both the province and the federal
government have extensive mapping capability which
is currently under-used.   Some concern was voiced
that the Central Mapping Division could duplicate
existing municipal services.   Those services could
not be eliminated at the local level due to the
need for frequent communication between mapping
people and the public works, roads and planning
departments.

Some officials feel that new technology may be
justified in the future, but question that funds
should be committed to a rapidly changing field.
Others consider that the benefits of faster
information retrieval, and more complete and
accurate information can justify now the capital
and development cost.

d)   Diversity of Needs

Within each area municipality there are many
departments with a need for maps. Not only are
there varied needs within the municipality, but
each municipality has its own special require-
ments. Toronto's compelling need for detailed
underground mapping is not shared by a primarily
suburban borough.

Some municipalities have developed rapidly and
accumulated a considerable backlog of work; they
are pleased to have a solid program guided by
the Metropolitan Municipality. Some have new
subdivision plans which must be integrated rapidly
into their mapping system. Other municipalities
have more stable needs.

e)   Control

Some officials favour highly centralized control
over the mapping activity. They have in mind the
standardization of all map types based on the grid
system, and a series of standard overlays to de-
pict special uses. One official proposed pro-
vincial legislation to make mapping standards
mandatory. It can be argued that common standards
would allow for uniform systems and the implemen-
tation of sophisticated computerized mapping tech-
niques.

On the other hand, a majority of the area munici-
palities claim that present systems suit their
purpose and financial resources. They believe it
is up to each municipality to have an adequate
level of service to meet the needs of its community,
and that it is the responsibility of their councils
to provide adequate funds toward this end. Cent-
ralization was perceived to be synonymous with
loss of accountability.

We heard wide support for a central mapping agency that would exercise quality control and maintain a reference index of map availability, so long as there is no duplication of map storage or service delivery.

f)   Map Distribution

Most area municipalities held that, so long as local governments have works, roads, property and planning departments, they should be responsible for map distribution. The role of the central agency,in their view, should be to maintain a map index and to provide information on where specific types of maps could be obtained. We heard little support for a centralized storage and distribution centre, since this would involve expensive updating and storage.

6.   RECOMMENDATIONS

i)   The Central Mapping unit should be made responsible for quality control, marker control, standard practices, map indexes and research. The unit should:

- monitor and evaluate the quality of the map-making activity and ground marker program in the Metropolitan area, and report annually to the Metropolitan Municipality and area municipalities on quality and progress;

- prepare and issue standard practice guide-lines for mapping activities;

- maintain a central map index to provide information on the type of maps and where they can be obtained;

- advise the municipalities on computerized mapping, aerial photography techniques and electronic surveying;

- conduct cost/benefit reviews of plans for the introduction of new technology in cases where the need is reasonably apparent.

The production and delivery of mapping services should be a direct responsibility of each area municipality and the Metropolitan Municipality for their respective mapping needs.

ii) The Central Mapping Division should be realigned as a separate unit of the Metropolitan Municipality. Alternatively it could be an agency funded by the Metropolitan Municipality but responsible to a management committee similar to the present Advisory Committee. The success of the Public Utilities Coordinating Committees lends support to a less structured, less formal type of relationship for the activities visualized for the central mapping agency. In its role as quality controller, researcher and advisor, it should be independent of any of the departments it evaluates or advises. The Metropolitan Municipality Roads and Traffic Department should have the same relationship to the central mapping unit as any other user of the latter's services.

iii) Mapping responsibility should be assigned to one of the departments in each municipality. The department should furnish an adequate mapping service to serve the municipality's needs, in keeping with the standards set by the central mapping unit and under a budget established by the municipal council. It is council's job to assign priorities to the municipal programs, and there is no apparent reason why mapping should enjoy special treatment. A direct relationship between the setting of service levels and funding encourages economy and effectiveness.

iv) The department responsible for mapping in each municipality should be required to maintain horizontal and vertical markers in accordance with the standards set by the central mapping unit.

v) The practice of providing public utility maps in Metro under the auspices of the Public Utilities Coordinating Committees should continue. Improvements and new programs in utilities mapping should be implemented only when the committees are prepared to spend the money for them.

vi)   Private sector services and senior government
agencies should be used to do aerial surveys,
computer plotting and fundamental research.
Research and experimentation with new techno-
logy need not be a major staff activity in muni-
cipal government.

XII.   RECORDS MANAGEMENT AND ARCHIVES

1.   THE FUNCTION

Records and archives constitute a public memory. The two terms are not interchangeable. In the Metropolitan area entities, the distinction between records and archives is as important as their relationship.

Records provide ready recall of information found in minutes, reports, correspondence and financial documents. They include police files on living persons, tax and assessment rolls relevant to current financial affairs, and the history of students in or only recently out of school. Records are retained, sometimes for lengthy periods, for use in the operations, business affairs and management of the entity. Some of the records and files are confidential.

On the other hand archives preserve the history of the entity. They deal with issues of the past, with people long dead, and with properties which may have been razed and rebuilt. Archives are material for research. With few exceptions, their contents are open to the public.

The elements in the management of records and archives are best understood by tracing the flow of a record from its creation to its destruction or storage. During its lifetime a record normally passes through a number of phases. At first the person who creates it - clerk, accountant, teacher or policeman - may need to refer to it almost daily. In that case the author of the record will keep it close at hand.

Once the need for that particular record becomes less frequent or urgent, the question arises: "Should it be retained?". The answer may depend on whim, or on a by-law governing the periods for which various types of records shall be retained, usually called a retention by-law. If the record need not be kept, it will be destroyed. If the decision is that it should be retained for a set period of time, a copy may be made for local reference, while the original proceeds to some less accessible storage area for inactive records.

When the normal life of the record is ended, a further question must be asked: "Is it historically valuable?". If the answer is "no", it will be destroyed.

If it has enduring historical value, the retention period
will be extended indefinitely and it will be placed in
the archives.

2.   RESPONSIBILITY

Few of the entities have formal records manage-
ment programs. In most cases individual departments maintain
as a matter of course those records which they originated.
Such records maintenance is usually a part-time activity.
Files are kept and used by personnel who are mainly con-
cerned with providing service to the public.

Interest in creating a more disciplined approach
is growing, and a number of entities or task forces have
undertaken studies aimed at a coordinated approach to
records management. The most extensive of these studies
was "Metro Records & Archives" (known as the Woadden
report), which deals with the feasibility of a joint re-
cords and archives service for Metropolitan Toronto and
the area municipalities. The report was prepared in
June 1976 by the Records and Archives Division of the
Clerk's Department of the City of Toronto. The study was
led by Mr. A. R. N. Woadden, who is Deputy Clerk of the
City, and who earlier was Director of Records and City
Archivist.

The City is one of the few entities with a re-
cords management and archives unit. Reporting to the
Division head are two managers responsible respectively
for central records and City archives. Associated with
the Records and Archives Division under the Deputy City
Clerk is a multilingual information service which answers
telephone and written inquiries, and a reproduction centre.

Two boroughs have formal records management pro-
grams, but both programs are much smaller than that of the
City. The Borough of Scarborough has a comprehensive
records management program, supported by a manual, and
the Borough of North York launched a similar program in
1976.

A few other entities, such as the Toronto
Board of Education, the Metropolitan Separate School Board,
and the Borough of York, concern themselves mainly with
archives rather than records.

A few years ago the Borough of York produced a history
that traced its continuity back to the creation of York
township. The City of Toronto has been the subject of
many histories, and we were told that the majority of
inquiries for archival materials came from ordinary
citizens investigating their own background.

There are at present no file or storage areas
that consolidate information of more than one municipal
entity. Each unit of government maintains its own
systems even when two governments share space as is the
case in Toronto City Hall.

3.   THE PROCESS

The different approaches to managing records
and archives reflect the diversity of responsibilities
and programs undertaken by local entities. Factors weighed
by the entities in operating their programs include:

- Speed. An important criterion the municipal
  staff and the public apply to program effec-
  tiveness is summed up in the question: How
  long does it take to get an answer to an in-
  quiry? The desire to provide a prompt service
  accounts for the widely held view that records
  should be kept as close as possible to the per-
  son who normally refers to them.

- Admissibility of evidence. The Clerk is commonly
  the official who is required to provide evidence
  on behalf of his municipality in court proceed-
  ings. "If we lost control of our records I
  couldn't give evidence", was one Clerk's comment.

- Public image. Some entities like to be seen by
  the public as the repositories of well-maintained
  archives. As the Director of Education of one school
  board put it, "I am effectively the Board's
  archivist, and I try to put the school system's
  best foot forward when researchers and citizens
  visit our offices".

- Some entities translate this concern into improved
  security for their archives. A scrapbook of his-
  torical importance to East York is being sent to
  City Hall for custody, while copies are main-
  tained at a local library.

Conservation of Archives

The City has the most comprehensive document con-
servation program. Its archives include not only
written records but also a wide variety of works
of art, photographs and historical objects. A
restorator is on the City's staff to care for such
memorabilia, and a comprehensive reproduction system
allows public access to copies of documents which
have become fragile.

Microforms

Use of microforms – usually on microfilm or microfiche –
is growing, and several entities have the necessary
equipment or employ contract services. The City of
Toronto, the Borough of Scarborough and the Police
Commission all have microfilm installations. Some
other local bodies use microfilm agencies under short-
term contracts to store their financial records. A
number of entities use computer output microfilm (COM)
for certain of their accounting records.

One problem connected with the use of contract micro-
form services is the fear that documents may be lost
or damaged in the process. To insure themselves against
such an eventuality, some municipal officials photo-
copy the documents before sending them out to be micro-
filmed. The cost of such copying offsets, at least
partially, the economies which result from the more
compact storage of microfilmed records.

Storage

Finding adequate space for storage is one of the
largest problems in records and archives management.
The City of Toronto has 3½ miles of shelving in its
central records area. In addition to the usual books
of records and collections of invoices, this shelving
has to accommodate 350,000 sets of building plans
that date back to World War I.

Storage usually is in the areas that divide office
spaces, in furnace rooms, in cellars with low ceilings
and piping, and in other locations which are of
little use for other purposes.

Some entities have had to rent warehouse space
to store documents. Low-cost space is often
distant from operating areas and therefore suitable
only for documents which are consulted rarely.

Records Retention

One way of reducing document storage requirements
is to make microform copies; another is to discard
those that have no further use. Many local entities
have records retention by-laws. Among the rest,
several indicated their need for such regulations.
Many commented on the increasing volume of documen-
tation which they have to store and some expressed
frustration over the difficulty of getting a suit-
able retention by-law passed by their governing
bodies.

4. STATISTICS ON WORK DONE AND COSTS

With few exceptions, the costs associated with
filing, storing and retrieving records and archives are borne
in departmental expenses and are not readily identifiable.

In some entities the space and personnel required
for central storage provide a basis for cost estimates. Thus,
the City of Toronto utilizes 26,100 square feet of storage
space and has 20 people on staff at a cost in 1975 of
$271,000. The Police Commission records on crime occurren-
ces take up only 8,518 square feet, but 223 employees at
a cost of $2,946,500 were required in 1975 to handle the
data. Computer techniques and mechanical card indexing
are particularly suitable for handling these types of
data.

It is impractical to estimate the total cost of
records and archives management, or to develop numeric
measures of performance. Some entities have counts of the
documents in their custody; most do not. Indeed it may
not be worthwhile to spend money counting documents. One
borough found that it could only restore some order in
areas that had become a dumping ground for unwanted files
by hiring a student on a Local Initiatives Program grant.

5.   THE KEY ISSUES

        The principal areas for discussion spring
from the need to have the entities deal with their docu-
mentation problems in a consistent, economical manner.

    a)   Retention Period Differences

    One of the greatest obstacles to the disposal of
    documents is uncertainty as to the length of time
    they should be retained. The law in many areas is
    not explicit. Where there is the possibility that a
    court case may require the production of a docu-
    ment that has been destroyed, simple prudence
    suggests that all documents should be retained.

    While the definition of document types is not
    easy, it can be done. The Scarborough Public
    Utilities Commission has a comprehensive policy
    specifying its retention requirements and some
    other entities have too. Not all these regula-
    tions are consistent, and there is an apparent
    reluctance to propose a shorter retention period
    than another entity for fear that the reasons for
    the longer period are valid.

    b)   Microform Use

    A retention by-law would also preclude the micro-
    copying of useless documents. Too easy access to
    microform equipment might prove to be more expen-
    sive than maintaining records in low cost space,
    whose limits encourage the destruction of useless
    records. Guidelines are needed to prevent the
    unrestricted or uneconomic production of microfilm
    records.

    c)   Legal Acceptability of Copies

    One disincentive to copying is the uncertainty
    as to the status of copies as evidence. Many
    legal advisors believe that the courts would not
    accept photocopies or other copies of records as
    evidence in a trial. While there is that uncertainty,
    even officials who think that the law is clear hold
    off from copying certain documents "in case" they

turn out to be wrong. As with retention periods,
consistency and certainty are essential.

d)   Records Storage Cost

Reduction in the space required for storage will re-
sult in a cost reduction only where that storage
space is leased and the need for it disappears. Where
present storage areas are unsuitable for other pur-
poses, using less of that space will not reduce costs
and no advantage is to be gained from the centraliza-
tion of storage. The vacated space would remain
empty, while the development of a specialized
building and supporting staff would be expensive.

e)   Jurisdiction

The Woadden Report, referred to earlier, recommended
that the Metropolitan Municipality enter into a
contract with the City of Toronto for the City to
assume its records and archives management under a
joint program. It recommended that the other area
municipalities should be responsible for their own
programs, but at the same time proposed that they
pursue joint programs instead of funding duplicate
ones.

The first recommendation of the Report could have the
effect of reducing the aggregate annual cost of this
function in the two entities. However a considerable
one-time cost would be involved in adapting the
Metropolitan Municipality's record-keeping practices
to those of the City.

Establishment by the province of regulations governing
retention periods and the admissibility of copies as
evidence in legal proceedings would go a long way
to getting better results in records management. Given
such regulations, there might not be much need for
joint programs among the area municipalities - although
the sharing of information on methods would be helpful.

f)   Importance of Archives

Archives get more attention in some entities than
in others. The entities whose essential task is the
keeping of written material - the library boards -
may feel that their expertise and resources are too
limited to undertake archival work for the other local
entities. But what organization - barring special
ones set up for the purpose - is better suited to
look after local archives than the library system
of a borough? Since its budget is set by the
same council that determines municipal expenditure
on archives, a budgetary allotment could be made
to the library board reflecting the council's views
on the importance of historical records.

6.   RECOMMENDATIONS

i)   The province should establish retention periods for re-
cords in local entities. This would encourage the im-
mediate destruction of many unnecessary records and copies.

ii)   The provincial and federal governments should cooperate
in altering legislation governing evidence, to clarify
what types of copies are acceptable in trial proceedings.

iii) Microfilming or other microcopying services should be
secured by outside contract or by use of in-house equip-
ment that is under tight control. Copy-making facili-
ties that are too readily accessible and seemingly in-
expensive encourage excessive use.

iv)   Records should continue to be stored locally in the
individual entities, rather than transferring them to
a central location. Taking advantage of low-cost
space in existing buildings seems the most economical
approach.

v)   Local authority should be retained over records
management and archives. This would enable each
entity to handle documents in accordance with its
particular needs and interests. Joint service con-
tracts, such as the one between the Metropolitan
Municipality and the City proposed in the Woadden
Report, should be entered into if they appear to be
advantageous to both parties.

vi)   Each borough's library board should be encouraged
to assume, wherever feasible, the management of
archives on behalf of the local entities in the
borough.

XIII. ADMINISTRATIVE SUPPORT TO COLLECTIVE BARGAINING

1. THE FUNCTION

This function deals with administrative help for collective bargaining, not the collective bargaining process itself. Collective bargaining involves management and labour representatives meeting to find a consensus on matters where their interests diverge. Administrative support services include providing data and other information to develop bargaining positions, analyzing the impact of proposals brought forward during bargaining, and seeing that specialists such as professional negotiators are available when needed. These services do not embrace ongoing personnel administrative activities such as keeping employee records, training, handling routine grievances, and recruiting or terminating employees within the terms of the collective agreement.

2. RESPONSIBILITY

The allocation of responsibility for furnishing administrative support reflects the differing circumstances of the entities and their attitudes to centralization of bargaining.

Most of the entities are responsible directly for their labour negotiations. They have the support staff demanded by their size and the complexity of their negotiations. In the smaller ones the personnel departments provide the necessary service. In some of the larger entities a specialized labour relations staff in the personnel department concentrates on collective bargaining needs.

The Metropolitan Municipality and the City of Toronto have two collective agreements with the same union locals and work closely together on these. However, each has its own labour relations section and the support functions are quite separate from each other.

The public boards of education generally have the Metropolitan Toronto School Board speak for them on salaries and fringe benefits, while they negotiate only the working conditions. As a result, there are collective bargaining support people in the Metropolitan Board, but in the local boards the task is simply part of the work of the personnel departments. Conditions of work, such as timetabling, teacher workloads and the extent of specialization have such an influence upon the character of local education

that they are dealt with by the senior staff of the local boards.

The hydro commissions depend heavily upon Ontario Hydro for advice. Ontario Hydro has a Municipal Labour Relations Service which carries out compensation research and offers analytical and computing resources to local hydro commissions during their negotiations. The commissions in Metropolitan Toronto have no significant support staff to collective bargaining.

3. THE PROCESS

The extent to which administrative support to collective bargaining is centralized changes over time. In 1975-76 negotiations, the Metropolitan Municipality and the City used lead bargaining, that is, they set a pattern that the boroughs normally would apply. Not all boroughs, however, followed the lead. Unless centralized bargaining were legislated, it appears likely that local differences would continue to hinder further attempts at lead bargaining.

At the time when the hydro commissions negotiated separately, they felt they were being played off against each other. Ontario Hydro subsequently helped them to coordinate their efforts. Now, some commissions wonder whether centralization has gone too far. While the Metropolitan Toronto School Board acts for the local boards on monetary matters, when negotiations begin it cannot be certain whether its positions will be acceptable fully to all the local boards.

In most entities, administrative support tasks are just a part-time activity. In the smallest, a senior staff member does the preparatory work and conducts the negotiations, sometimes with the assistance of elected officials. Entities which face similar problems frequently consult each other informally.

Certain entities rely quite heavily on the information services of "trade" associations. Some of these associations have labour relations advisors, who assist members in gathering data for their collective bargaining negotiations. These include:

> Toronto Compensation Group - a cooperative group of senior corporate and public sector personnel officers who exchange salary and wage information.

- Board of Trade of Metropolitan Toronto - a businessmen's organization that prepares clerical and data processing salary and wage surveys.

- Ontario Municipal Personnel Association - an adjunct of the Association of Municipalities of Ontario. It issues annual analyses of municipal wages and frequent summaries of the agreements reached between Ontario municipalities and their unions.

- Ontario Public School Trustees' Association and Ontario Separate School Trustees' Association - groups representing elected school board members. They prepare annual surveys of collective agreements in Ontario's public and separate schools. The latter Association publishes reports on settlements.

- Municipal Labour Relations Service of Ontario Hydro - already mentioned, serving hydro utility commissions across the province.

- Ontario Library Association - a "trade" association which prepares relevant salary surveys.

Some officials of the entities do not appear to be well informed about what those units can do. Many entities make their own surveys of local conditions affecting office workers, because these workers usually are recruited in or near the territory of the entity. Some personnel departments exchange information among themselves. One official commented that he had more information coming to him than he could use.

A major problem in interpreting surveys is to determine whether jobs with similar names actually have the same content. To do so, it is necessary to be familiar with the participants' job evaluation programs. Such programs are based on carefully written job descriptions that include a general outline of responsibilities as well as the authority each job entails and the qualifications required to perform it. Individual jobs can then be matched with salary or wage scales.

Administration of a job evaluation system is easiest when the number of distinct jobs to be classified is smallest. Use of a common system for several units therefore yields most economies when job descriptions apply equally well to each unit. However, we were told that only 30 per cent of jobs are similar between the Metropolitan Municipality and the City. Between them and the boroughs, the disparity is even more pronounced.

For instance: a licensing enforcement officer
in the Metropolitan Licensing Commission does not do the same
work as a by-law enforcement officer in a borough, even
though their titles appear to have similar intent. Also,
as was said to us by a local official, "centralization would
require a complete job description and evaluation program to
cover all participants. Neither we nor the unions are ready
for that". Even integrating Metropolitan Municipality and
City job evaluation systems would be a large task, because
they are founded upon quite different principles. The Metro-
politan Municipality classifies positions by levels based
upon complexity, responsibility and qualifications. The City
uses a point system to weigh a number of job characteristics
in relation to "bench mark" positions. Melding the two
would require a great deal of detailed work and negotiation.

At bargaining time, each round of negotiations calls
for calculations of the cost effects of proposals. Computers
are frequently used to do this, because they can show quickly
the impact of proposals advanced during negotiations. The
Metropolitan Municipality, City, Metropolitan Toronto School
Board and Ontario Hydro's Municipal Labour Relations Service
use computer assistance in this way.

Administrative support plays an important part during
the preparatory stages to collective bargaining and throughout
the negotiatons themselves. The negotiating team may include
senior labour relations officers, other staff members, elected
officials, professional negotiators or any combination of these.
Because there is no general consensus as to the most effective
combination of skills, the composition of the bargaining team
varies from one entity to another. Ensuring that there is the
right mix for each set of circumstances is an important respon-
sibility in supporting collective bargaining. The smallest
local entities rely heavily on professional negotiators; but
even the largest may require professional services in a parti-
cularly difficult situation.

4.   STATISTICS ON WORK DONE AND COSTS

Variation in the expiry date of agreements and in
the complexity and duration of negotiations makes it impos-
sible to call any one year's administrative support costs
average or typical. In 1975, the year for which we col-
lected statistics, the boards of education attracted a great
deal of attention because of the cost associated with lengthy,
complex and bitter negotiations.

A total of almost 60 employees in the personnel departments of the entities were involved in 1975 in providing support to the bargaining process. There are about one hundred collective agreements covering well over 50,000 employees.

The cost data for 1975 supplied to us by the entities were necessarily incomplete in many respects. Most entities could not segregate staff costs or time devoted to supporting the collective bargaining process from the costs spent on other personnel matters. Also, the cost data supplied usually did not include:

- the time and contribution of elected officials who participate in many negotiations and sometimes collect data for analysis;

- a proportion of fees paid to "trade" associations for surveys which sometimes form the backbone of pre-bargaining analysis;

- assistance provided by other departments, such as treasury departments, which may analyze salary costs and assess cost impacts during negotiations; and

- associated computing costs, whether internal or contract, mixed in with other departmental data processing expenses.

The value of the output from the support function is impossible to measure. It would be only speculation on anyone's part to suggest that less costly contracts might have been negotiated with better administrative support. It is also impossible to determine whether centralized collective bargaining activities were more or less successful than those which were decentralized.

5. THE KEY ISSUES

The main issues concern not so much the cost as the effectiveness of administrative support to collective bargaining.

a) Adequacy of Compensation Survey Information

Surveys have a major role in supporting collective bargaining. They report agreements as they are reached by the surveyed organizations. Once a year or more often, they summarize the situation in the

organizations as of a given date. They help
the negotiator to determine whether his organi-
zation's wage and salary levels and fringe
benefits are above or below those of comparable
entities. Preparing such data requires careful
attention to detail and the ability to screen
out misleading or incorrect information.

It is essential that the surveyors be familiar
with the field under study and that they have
the cooperation of the participants.

"Trade" associations are likely to meet these
requirements. Centralization of surveys in a
municipal entity might not meet with the neces-
sary cooperation. Also, it would have to duplicate
the surveys of the trade associations, or would
merely use them as other entities do now. Its costs
would probably be higher than those of a trade
association which relies for support on membership
fees, donations and grants. For these reasons there
seems to be no real advantage to further centrali-
zation of surveying activities.

b)   Staff Expertise

Like any complex activity, labour relations call
for highly developed skills. Municipal officials
have no ready way to acquire training in these skills.
Lack of staff expertise in collective bargaining can
create unexpected roadblocks just when an agreement
is in sight, or cause sensitive negotiations to be
scuttled by misunderstanding the proper lines of
communication.

The answer to the problem seems to lie in a central
training program devoted to labour relations, inclu-
ding those skills required to assemble and analyze
survey material and to administer job evaluation
systems. A short but comprehensive seminar offered
by the province could meet the need.

c)   Job Evaluation

The existence of disparate job evaluation systems
might seem to be a problem which centralization of
administrative support would resolve. However, the
merging of present systems that were built upon quite
different approaches would be difficult and costly.

Creating a comprehensive and uniform system
would require writing job descriptions where
none now exist, and moulding jobs of roughly
similar nature to a common pattern. Some
small entities do not now have a job description
for each employee and would find the introduction
of such a system beyond their financial means.

Also, many local entities feel strongly about the
way in which they have set up their structures
and duties. A garbage truck may be tended by two
or by three employees, or planning officers may
have rather different duties from one municipality
to another. Dealing with hundreds of such varia-
tions, in the process of getting common classifi-
cations, would be difficult and time-consuming.

6.   RECOMMENDATIONS

          Given the existing allocation of responsibility
for conducting collective bargaining, we believe that the
present approach to providing administrative support should
continue, but with an upgrading of skills and services.

i)   Trade association survey support to the collective
     bargaining process should be continued and encouraged.

ii)   A training course in collective bargaining should be
      developed for local government officials.

iii)   Responsibility should be left with the individual en-
       tities for the operation and further development of
       their job evaluation systems.

          Weighing the merits and disadvantages of centrali-
zed area-wide municipal bargaining does not come within the
scope of our study. If centralized bargaining were intro-
duced, it would alter recommendations ii) and iii):

     -   Trade associations would continue to pro-
         vide province-wide survey information.

     -   A central negotiations and labour research unit
         would be able to hire or develop its own qualified
         personnel.

- The benefits from uniform job evaluation systems would be considerably greater if bargaining were centralized. The use of standard classifications and consistent principles would so simplify the bargaining process, in those circumstances, that common job evaluation systems likely would be introduced.

- Apart from the major and costly one-time effort to integrate job classification and evaluation systems, it is unlikely that a central support unit would need a staff much larger than the present labour relations staff in the Metropolitan Municipality. Some reduction in workload, and a minor reduction in staff, might come about in the area municipalities.

XIV. CONCLUSION

From our findings and recommendations in the preceding ten chapters, it will be clear that we are proposing very little further centralization of authority or consolidation of activities. We do, however, propose in several functions some sharing of information or the use of services available from specialized public or private sector organizations.

In essence we are saying: do not change the authority and structure within these services, capitalize on opportunities to share or contract services elsewhere, and concentrate upon improving administrative services, policies and practices within the entities.

Only in the computer and systems function do we recommend changes that affect significantly the allocation of authority. Even in that instance, we determined first what we regard to be the most logical process for handling the function, and only then did we draw the logical consequences for the allocation of responsibilities.

Thus, our findings lend little support to the proposition that further economies of scale can be achieved in administrative functions in Metro. It should be remembered that many of the municipalities and other entities in Metropolitan Toronto are large enough to have already secured significant economies of scale. Functions such as revenue billing and collection, payroll administration, pension administration, auditing, purchasing and stores, archives, administrative support to collective bargaining, and computer services already are centralized and consolidated within most of the entities. Even in the remaining ones - printing, mapping and records management - much of the work is now centralized and consolidated. To try to extend centralization and consolidation into even larger aggregations of entities would, in our view, be counterproductive in terms of cost, quality of service and human resource management.

We cannot jump from these comments to the conclusion that, apart from the issues we raised, the individual functions are performed now with maximum efficiency and effectiveness. What we are saying is that, in most functions, structural changes in the allocation of authority and responsibility will not help.

In this chapter we comment on a series of general issues in the organization and management of administrative functions in the entities. These issues do not relate to individual functions, but rather cut across many or all of them. Our observations were developed in drawing together our findings and recommendations in the individual functions which we examined.

SERVICE VERSUS COST

We observed in many functions a strong incentive to provide the highest possible quality of service, particularly if the service deals directly with members of the public. The corollary to this sometimes is a weakened incentive to limit or cut costs.

It is part of the nature of the political process that municipal officials are more likely to be criticized for unsatisfactory service levels than for higher costs. This is true despite current demands for cost restraint in the public sector.

We also saw attitudes based upon "rising expectations": both public and administrative support services strive constantly and steadily to improve their quality of service. "If we can get our hydro bills out a week earlier, let's spend the money to do it." "It used to take us half a day to answer a taxpayer's question about the standing of his account. We have got it down to 15 minutes by strengthening our computer services. Soon we will have display screens that will give us the answer in a few seconds, while the customer is on the telephone. Sure, it's expensive, but the taxpayer is pleased."

Balancing service quality with the cost of securing it is difficult in any organization, but perhaps nowhere more than in the public sector. Senior municipal officers and elected officials should be made aware by the municipal staff of the cost implications of every significant improvement in the quality of administrative service. The officials who are accountable should be in a position to exercise their judgment in deciding whether or not the benefits are worth the additional cost.

EFFECTIVENESS AND EFFICIENCY

Effectiveness has been defined as doing the right things. Efficiency is doing things right. Effectiveness is concerned with what should be done and why: What are the objectives? What is really needed? What will its benefits be? Efficiency is concerned with handling something in the best possible way.

We observed some cases where excessive concern for efficiency – for handling things in the most professional and thorough way and taking advantage of the latest technical developments - obscured the impartial consideration of effectiveness: What was the end purpose of the work? Did it really need to be done at all? Could a lower level of service still meet the real need?

Again, there is no easy answer to this problem. It requires constant vigilance on the part of senior management and of elected officials, to keep both public and internal services in perspective, so they will not end up doing with consummate skill things that do not need to be done at all.

This issue has implications for any further centralization of functions in Metropolitan Toronto. There is a built-in tendency to inefficiency whenever responsibility for a service is placed at a level higher than the individual entities. The central group will naturally endeavour to provide a uniform standard of service to all the entities, to treat everyone the same, and to ensure consistency in quality standards. At the same time, there is a strong incentive for the entities to use the service. Since they are paying for it, they feel they should get their money's worth. Even though their needs may be different from the next municipality's, they demand the same quality of service. The end result is a uniform standard of service that may in some entities be higher that required, and a spending of money that is not warranted.

FACT-BASED DECISIONS

We attach great importance to the public accountability of the individual Metro entities. A factor in not recommending much further centralization or consolidation was the need to preserve and support the accountability

of the elected officials and management of each en-
tity.

Municipalities cannot be controlled on a profit
and loss basis. Performance measurement for services and
costs is difficult and often subjective. Accordingly
there is a strong case for relating accountability as
directly as possible to the electorate.

Most officials are prone to argue that cen-
tralization and consolidation of any given function are
bad in principle. Yet their own entities have in all
probability centralized and consolidated the same function
at the entity level. This is tantamount to saying that
authority and responsibility can be concentrated up to
one's own organizational level, but certainly not beyond
it.

When the prospect is raised of centralizing the
authority over a function outside the entity, many of-
ficials will cry "local autonomy", by way of defense to
stop it. The real reason for opposition may well be the
fear of loss of control - a fear that may or may not be
justified.

Related to this is the tendency for proposed
improvements to be justified and authorized on the basis
of ill-defined claims about their benefits: better
quality of service, faster response, more flexibility.
Resistance to change is based on feelings about the
dangers: less responsive to local needs, more destruc-
tive of local autonomy, or less dependable.

Broad claims, and demands for guarantees, are
unsatisfactory. To cite "better control" is not good
enough. How is it better? Why do we need better control?
If "better quality of service" is the objective, in what
way will it be better? Why does it need to be better?
These are the real questions that must be answered.

Equally, to ask for guarantees of performance
and of benefits as a condition for authorizing a change
is often unreasonable. True, the doubter should be
given as much detail as possible, to show that the change
will work and will produce the intended results. Pilot
or demonstration projects can be used in some fields to
establish results and the benefits to be attained. But

to expect guarantees of results from something that does
not yet exist can sometimes be quite unfair.

Too often, decisions for or against a change are
based upon attitudes, not facts; upon generalities, not
detailed analysis; upon emotion, rather than impartial
evaluation.

Once again, it is up to senior management and
elected officials to probe the matters placed before them
for decision. They must make sure that a proposition is
founded on facts, proper analysis and cool evaluation.

INFORMATION TO MEASURE PERFORMANCE

How can the managers of the entities compare their
work performance to that of their counterparts? How do
the elected officials know the quality of performance in
the entity? How is performance made visible?

Municipal organizations have a hard time answering
these questions. Often no quantitative data are collected.
More important, many of the services, both public and ad-
ministrative, are intangible; they are measurable only in
part.

The study questionnaires completed by the entities
caused some of them to compute for the first time the costs
of some of the functions. Some of the cost tables in the
preceding chapters show wide variations in unit costs amongst
the entities. These should be investigated. Often the
explanation for apparently good or bad relative performance
will be found in differences of circumstances or responsi-
bilities, or inconsistency in the treatment of costs. Other
variations may point to inefficiencies that should be analyzed
and corrected.

The provincial Ministry of Treasury, Economics
and Intergovernmental Affairs, through its Municipal Finance
Officers' Manual, prescribes a uniform classification system
of expenditures for municipalities. The Ministry of Educa-
tion does the same for the school boards, and Ontario Hydro
for the hydro commissions. These classifications often
are not detailed enough to enable meaningful comparisons
among organizations as large as many of the Metro entities.

Most of the entities keep some detailed cost
records by department or by function, but each entity
develops its own. Making comparisons can be very difficult,

because of inherent inconsistencies in classifications.
Nevertheless they should be made - as a measure of per-
formance and a spur to improvement. The information should
be exchanged freely among the entities.

Program budgeting is a management technique that
adds a new dimension to cost analysis. It identifies the
programs, services and activities of an organization in
considerable detail. The costs of people, equipment and
overhead, and statistics on the work done or other output,
are accumulated in the accounting system according to the
same classifications. The output of services can then be
related to the input of resources, to help measure ef-
fectiveness and efficiency.

Some of the entities in Metropolitan Toronto
have gone part way to introducing program budgeting. The
Board of Education for the Borough of York, in particular,
has prepared an extremely detailed program budget for
1976. Other entities do not use the technique at all.
Its principal value is in municipal organizations that
render public services and consume large amounts of re-
sources, i.e., the municipalities and the school boards.
It is of less value in the organizations that sell pro-
ducts and have a profit and loss statement: the public
utilities and the hydro commissions.

Program budgeting is not without its problems.
It can be overdone, particularly in its more complex
forms which go under the name "planning, programming, bud-
geting systems (PPBS)". But the idea of breaking down
the work to considerable detail, recording the quantities
of output and relating them to the input and cost, has
much merit.

We harbour a healthy skepticism about the value
of highly detailed information systems. Managers often
refuse to use the mounds of reports which descend on them
from all directions. But there is much value in having
clear, accurate and consistent data on costs and services
rendered, to help in measuring efficiency and effectiveness.
We believe that greater use should be made of program bud-
geting techniques in Metropolitan Toronto. To facilitate
the comparison of results among the entities, we believe
that classification structures, basic systems and report
formats for program budgeting should be developed co-
operatively for the municipalities and (separately) for the
school boards.

COOPERATIVE DEVELOPMENT

Human nature is such that everyone wants to do things "their way". Pride of authorship and individual preferences often overrule the fact that someone else already has gone through the throes of designing a system that works.

Nowhere is this truer than in the computer systems field, where the "NIH" (not invented here) syndrome runs rampant. That is one reason why there are 10,000 payroll systems in North America today - all with essentially the same tasks and purposes. Yet designing computer systems is very expensive. "Reinventing the wheel" is an occupational luxury that those who end up paying for the systems can ill afford.

In the Metropolitan Toronto entities there are 30 payroll systems, six tax billing systems, six water billing systems, six hydro billing systems and an uncounted number of inventory control systems. There is much similarity among each of the area municipalities, the water and hydro utilities and the school boards. Information needs for operations, administration and management control in each of those types of entities are also similar. Why, then, all this duplication of systems activity?

In Chapter IV we recommended a pattern of computer management based upon a combination of central facilities and local minicomputers. That pattern offers a good way to use commonly designed systems while allowing the individual entities a lot of leeway to modify or supplement those systems to meet their special needs.

The duplication and added costs of doing things "my way" apply in other functions in Metro as well. In records management, in purchasing, in personnel administration and in other functions there are many instances of well-designed practices in use in one or another of the entities. The existence of these practices should be publicized among the other Metro entities. When considering the introduction of new systems and practices, an entity should check around to see whether an existing system could be adopted or modified to serve its purpose.

MANAGING SHARED SERVICES

There are times when it makes sense for a
central organization to perform all or part of some
function on behalf of several or all of the entities in
Metropolitan Toronto. The Central Mapping Division is
the best existing example of those we studied. Our re-
commendations on computer systems call for a central group
to operate central facilities and design common systems.
Other instances may come up as the years pass.

The role of the Municipality of Metropolitan
Toronto is primarily to provide a set of public services
that relate to the whole Metropolitan area. This does
not make the Metropolitan Municipality a senior government
in the sense of exercising control over the area munici-
palities. The Metropolitan Municipality's services
simply connect with, rather than supervise or override,
the services of the area municipalities. Except in speci-
fic, agreed activities (of which mapping is the only one
covered by our study), the Metropolitan Municipality does
not coordinate, set standards for or perform services on
behalf of the area municipalities.

What organization, then, should be the focus
for central services shared by all or many of the entities?

A committee of users, representing each entity
served, and charged with the job of directing the central
service activities, would not be a practical solution. A
committee may be fine as a means to exchange information,
discuss common problems or undertake simple tasks. But
it is not a strong enough organizational form to embrace
ongoing operations that employ people, acquire assets,
incur costs and require funding.

A special-purpose body (say, a Metropolitan
Toronto Computer Services Agency) would have some advan-
tages. An agency could be created for each individual
central service, or all such services could be housed in
one administrative services agency. The governing board
of the agency could comprise either municipal officers
from the entities, or elected officials or both. This
would help to maintain effective control and satisfy the
users that their interests will be looked after. However,
boards composed of user representatives often do not func-
tion well. Board members may have insufficient knowledge
of the service provided. Difficult problems of funding,

of accountability and responsiveness, and of internal management can arise. And the spectre of self-aggrandizement is always present.

Central services could be provided through the Metropolitan Municipality. But because the Municipality itself probably would be a major user of the central service, placing the service in any of the operating or administrative departments of the Metropolitan Municipality could lead to problems of independence, and probably would not be acceptable to the other users served.

However, it would be feasible to place such central services under a distinct organizational unit which legally was part of the Metropolitan Corporation, and was accountable to the Metropolitan Council. This arrangement would in large measure remove the central service from control by the user departments in the Metropolitan Municipality, and should be acceptable to the other using entities.

The City of Toronto, as the hub of Metro, could have a special role to play. With its history of sharing services, and having developed advanced techniques in many functions, the City could be a good home for some central services. Since the City would be a major user of those services, there are similar concerns to those raised in the case of the Metropolitan Municipality; a new service unit would have to be organizationally distinct from the City's operating and administrative departments unless the area municipalities expressed strong support for some other form of organization.

Instances may arise where the best locale for a central service is in a unit at the provincial level. However, given its responsibilities to serve the whole of the province, the government may not wish to become involved in providing specific services to Metro. Besides, the Metropolitan area entities may prefer to have the central service furnished by some organ of their area, to facilitate local control and support local accountability.

There are really no firm principles or guidelines to determine an organizational form for a central service which will be ideal under all circumstances. We think it is wise to assess each case on its own merits, and to accept that the choice may be different from service to service.

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TERMS OF REFERENCE

PROJECT: STUDY OF COMMON ADMINISTRATIVE SERVICES

I. Problem Definition

One of the main points mentioned in briefs supporting amalgamation
was that economies of scale in various services could be
achieved. While this assertion has been challenged, most
convincingly by Peter Lyman,[1] a number of people have indicated
to the Commission that greater efficiency and economies of
scale could be achieved within a two-tier system if certain
services were commonly administered. Metro staff suggested,
for example, that $2.5 million per year could be saved with no
loss in the level of service if computer services were
centralized under one agency. The Deputy Clerk of the City of
Toronto, in a report requested by Metro and City Councils,
said that a joint record-keeping and archives service for
Metro and the area municipalities would achieve a better
quality of service than is now the case.

In spite of these and similar proposals, few instances of
sharing exist. Notable exceptions are the City and Metro,
which have joint purchasing, computer services, and collective
bargaining arrangements. The main reasons for this failure -
if it is such - appear tc be:

- a fear among elected representatives
  and staff that a loss of autonomy or
  flexibility would result;

- uncertainty about how costs would be
  shared among the partners; and

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1. Peter Lyman, "Efficiency in Urban Government: Economies
   and Diseconomies of Scale" in Metro Toronto Under Review:
   What Are the Issues, published by the Social Planning
   Council of Metropolitan Toronto and the Bureau of
   Municipal Research, 1975.

       - the absence of any single agency to explore
         common administration and to overcome the
         above two concerns.

What are classified as "General Government" expenditures in
the system as a whole doubled from 1968 to 1975. With each
of the municipalities getting involved in more complex
administration and the use of high-priced technology, it is
reasonable to assume that the potential for increased
efficiency and economy through sharing exists. In a two-tier
system, however, such sharing could only be successful in
the areas - if any - where no loss of local political autonomy
would result.

The purpose of this project is to identify possible areas
for such sharing and to explore the benefits and problems
which might be encountered.

This study is not central to the Commission's main task of
developing a new structure of local government for Metro,
although it would be included under item (g) of the terms of
reference which contemplates an examination of "the system
of administration and the relationship of the administrative
organization to the municipal councils and committees of
council in the development and implementation of policies in
the Metropolitan area". If a two-tier system were to continue,
however, such a study might show if savings in the
administrative costs of government in Metro could be achieved
without threatening its essential benefits.

Perhaps most important, the Commission is in a unique
position to address a series of problems that have bedevilled
municipal administrators in Metro from the beginning. In
this way, the Commission could contribute to solutions to
problems ancillary to its main task.

II. Areas of Investigation

The study will examine the following services as they are
currently carried out in Metro, the area municipalities, the
boards of education, the Toronto Transit Commission, the
library boards, the parking authorities, hydro commissions,
the boards of health, and the Board of Commissioners of Police:

- central mapping
- data processing
- revenue billing
- purchasing and stores
- printing
- pension administration
- records, archives and public information
- payroll administration
- auditing

In addition, the study will examine briefly the administrative aspects of joint collective bargaining.

For each agency and each service, the study will estimate the 1975 costs of the services listed and provide an evaluation of:

- the estimated economies or other benefits that could be achieved by joint or centralized administration of the services;

- the disadvantages of such an arrangement, particularly the possibility of a loss of control or flexibility for the agency;

- the feasibility of joint or centralized administration and the conditions which would have to be met to make such a change feasible.

III. Methodology and Source Material

The study will be carried out by a management consulting firm. The following steps would be required:

1. Assembly of cost information on each service (much of it in the Commission's files).

2. Assessment of particular characteristics and needs of each service (through interviews and an examination of literature).

3. Development of possible centralized or joint administration schemes for each service.

4. Estimate of cost impact and other implications of possible alternative schemes for each service.

5. Recommendations.

A draft report will be prepared for discussion with the
Commission prior to the submission of the final report for
possible publication.

A certain amount of information and expertise is already
available on a number of services. Documents include:

- Municipality of Metropolitan Toronto, Map Agency
  Proposal, A Plan for Metropolitan Toronto, (October 15, 1973)

- Department of Management Information Systems,
  Memorandum to the Budget Sub-Committee of the
  Metropolitan Executive Committee, "Computer Sharing
  in Metropolitan Toronto," (June 13, 1975)

- City Clerk's Department, Metro Records and Archives,
  City of Toronto, (June 1976)

IV. Completion Date

The study will be completed by September 30 in draft form with
the final report to be submitted to the Commission by
October 15, 1976.

BIBLIOGRAPHY

GENERAL

Metro Toronto Under Review: What Are The Issues?
   Bureau of Municipal Research and Social Planning
   Council, June 1975

Report of the Special Program Review
   Government of Ontario, November 1975

COMPUTERS AND SYSTEMS

Metro Area Computer Study
   Letter report of Management Committee, April 20, 1970
   Letter report of Technical Committee, April 1970

Report on Automatic Data Processing
   Committee on Government Productivity, Ontario,
   February 1972

Report on Management Information Systems
   Committee on Government Productivity, Ontario,
   March 1973

A Cooperative Plan for Computer Services for The
   Metropolitan Toronto School Board
   Price Waterhouse Associates, July 1972

Preliminary Feasibility Study of the Consolidation
   of Computer Facilities in Scarborough
   Woods, Gordon & Co., July 1975

AUDITING

The Role of the Municipal Auditor in Ontario
   Bureau of Municipal Research, June 1976

Report of the Independent Review Committee on the
   Office of the Auditor General of Canada
   Government of Canada, March 1975

PRINTING

Study of Printing and Duplicating Requirements
Management Services Department, City of Toronto,
June 1976

MAPPING

Map Agency Proposal, A Plan for Metropolitan Toronto
Municipality of Metropolitan Toronto, October 1973

Control Surveying and Mapping Programs as of January 1,
1976
Central Mapping Division, Municipality of Metropolitan
Toronto, May 1976

Maps and Plans Inventory Report
Central Mapping Division, Municipality of Metropolitan
Toronto, undated

RECORDS MANAGEMENT AND ARCHIVES

Metro Records and Archives
Records and Archives Division, City of Toronto,
June 1976